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Volume 144 No. 18 — Schnell Publishing Company, Inc., Publishers — November 1, 1943

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Oil, Paint and Drug Reporter

Founded 1871 by William O. Allison

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No. 18 | November 1, 1943 | Volume 144

Chemicals Loading Order Revised

OPD Washington Bureau

A general revision of ODT Order 18, which requires maximum loading of railroad freight cars to assure more efficient use of these transportation facilities, was announced by the Office of Defense Transportation October 23. The revised order, known as general order ODT 18A, becomes effective November 1 and supersedes general order ODT 18, revised, as amended, and also incorporates special directions ODT 18A-1, 18A-2, 18A-3, and general permit ODT 18A-1.

The new order makes no radical changes in current loading requirements but seeks to amplify the terms of the old order to meet changed loading conditions. Of special interest to the chemical and allied industries are the revisions in special direction ODT 18A-1 which provides generally that in the case of chemicals shipped in barrels of 500 pounds gross weight or more they need to be loaded only one tier high. In the case of dangerous articles the order retains the exemptions on loading requirements heretofore allowed for such articles in Topping's tariff.

Special direction ODT 18A-1 provides for the loading of chemicals in the following manner:—

25. Alkalies and alkali products. Including but not limited to, bleaching powder; calcium chloride, other than liquid; caustic soda, dry; lye, concen-

—*Continued on page 39*

—O-P-D—

Motor Carriers Must Not Extend Routes

OPD Washington Bureau

All truck operators have been forbidden by Joseph B. Eastman, director of the Office of Defense Transportation, to inaugurate new truck operations or extend present routes or delivery areas without obtaining prior approval of the ODT. The action was taken in amendments to three of ODT's general orders. The amendments, which are effective immediately, forbid any motor carrier to increase his mileage by extending his operations into areas or over routes not now served by the carrier.

All truck operators performing over-the-road, local cartage and pick-up-and-delivery operations are affected. Any of these carriers—private, contract or common—who desires to extend operations or establish new ones must first obtain the approval of the ODT, under the new amendments.

In the case of private and contract operator, prior approval will not be required for a change in routes with-

—*Continued on page 39*

—O-P-D—

Marginal Minerals Production Restricted

OPD Washington Bureau

A cutback in domestic production and imports of mercury for 1944 for both private and government purchase to approximately 70 percent of the 1943 amount has been ordered by the War Production Board, it was announced October 27, in a general revision of government policies on stockpiling of ferro-alloys and marginal mineral production.

The program for the future as outlined by the board following a survey of requirements of minerals made by the Production Executive Committee is as follows:—

1. After stockpiles of ferro-alloys (vanadium, tungsten, molybdenum, cobalt, etc.) reach recommended levels, domestic production and imports will be kept in balance with the then current consumption. This will insure a supply of ferro-alloys adequate to meet the needs of war and avoid excessive accu-

—*Continued on page 80*

Monsanto Vice-Pres.

Francis J. Curtis, has been elected a vice-president of Monsanto Chemical Company, St. Louis, Mo. He will be in charge of Monsanto's long range program of development here and abroad, including general research and general sales development.

Navy Contracts Legislation Set

OPD Washington Bureau

A legislative program covering the termination of war production contracts of the Navy Department which authorizes the department to make full payment where agreement has been reached on the amount due and 90 percent payment in cases where final determination of the amount has not been made was introduced in the house October 25 by Representative Carl Vinson of Georgia, chairman of the committee on naval affairs.

The bill (H. R. 3518) was referred to the naval affairs committee and will be the subject of hearings at a later date. There was no indication as to whether the terms of the legislation meet with the approval of the administration or not. It was noted, however, that it is similar to legisla-

—*Continued on page 80*

American Firms Tieups Baring With Foreign Cartels Asked

OPD Washington Bureau

Legislation requiring the registration with the Department of Justice of all foreign contracts to which a domestic corporation is a party that in anyway affects trade and commerce in commodities was introduced in the senate October 25 by Senator Joseph O'Mahoney of Wyoming. The bill, S. 1476, was referred to the senate committee on the judiciary for its consideration.

Aim of the measure is to turn the spotlight of publicity on all international dealings of American business firms that involves agreements limiting production, fixes prices or attempts to divide off the world into trade areas for the purpose of controlling competition.

Under the terms of the legislation it would be the duty of each domestic company and each foreign company doing business in the United States to register with the attorney general a copy of any foreign contract (or if unwritten, a copy of the terms thereof) in which it or its affiliate participates which contains in form or substance any of the following terms, conditions, or provisions:—

(a) A restriction, limitation, or prohibition upon the amount, types, or kinds of commodities, or processes which any party to the contract, or any nonparty, shall be permitted or authorized to produce, manufacture, sell, use, lease, or purchase.

(b) An agreement as to the prices to be paid or to be charged for any amount, type, or kind of commodity or process bought from or sold to any third party.

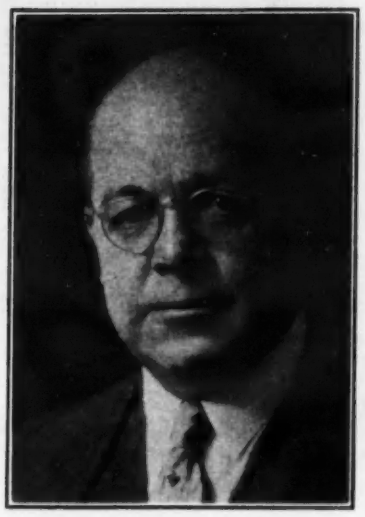
(c) An allocation, division, or apportionment between parties to the contract, or between a party and any nonparty, of any territory or markets in which any operations or activities of any business shall be conducted.

(d) An agreement to form or to use, for the purpose of conducting joint operations or a joint venture, any corporation, partnership, unincorporated association, company, or legal person or entity.

—*Continued on page 85*

Consulting Chemists Elect Officers

Dr. Harry P. Trevithick, of the Bureau of Chemistry of the New York Produce Exchange, was elected president of the Association of Consulting Chemists and Chemical Engineers at a meeting held at the Chemists' Club, this city, October 26.



Dr. H. P. Trevithick

Other officers elected were:—Vice-president, Albert Parsons Sachs, consulting engineer; secretary, William C. Bowden, jr., of Ledoux & Co.; treasurer, Henry M. Shields, of the Mid-Town Coal Laboratories. Dr. Wallace J. Cohoe, president of the Society of Chemical Industry, London, consultant in textile and cellulose fields, addressed the meeting "On a Consultant in the Changing World."

—O-P-D—

Commerce Dep't Names Distribution Consultant

OPD Washington Bureau

The appointment of John H. Morse, veteran in the field of industrial advertising, as consultant to the Department of Commerce has been announced by Secretary of Commerce Jesse Jones. Mr. Morse, who in 1941 and 1942 was chief of the Division of Commercial and Economic Information in the Bureau of Foreign and Domestic Commerce, will serve in an advisory capacity in department publications, on projects embracing community economic development, and on the aid which the department can give business in its planning to meet the advertising and distribution problems certain to arise in moving the volume of goods that will be made available by a high level of employment in American industry.

—O-P-D—

Door-to-Door Canvassers Tax Case in High Court

OPD Washington Bureau

Constitutionality of State retail tax enactments which impose taxes on sales of door-to-door canvassers of out-of-State manufacturers is to be reviewed by the Supreme Court of the United States. The question was raised in a suit brought by the Commissioner of Revenues of Arkansas vs. J. E. Dilworth Company and Reichman-Crosby Company.

The respondents are foreign corporations, not qualified to do business in Arkansas, and have no place of business there. Orders for merchandise are taken from customers in the State by traveling salesmen and the merchandise is shipped direct to the purchaser. The State sought to col-

—*Continued on page 85*

Merck & Co. Charged With Illegality In E. Merck Pact

OPD Washington Bureau

Filing in the United States District Court at Trenton, N. J., of a civil complaint charging Merck & Co., Rahway, N. J., and E. Merck Chemical Works, Darmstadt, Germany, with maintaining a cartel agreement in violation of the antitrust laws, was announced October 28 by Attorney-General Francis Biddle.

Defendants named in the suit are Merck & Co.; George W. Merck, its president, and the Powers-Weightman-Rosengarten Corporation, a Merck subsidiary with offices at the same Rahway address.

The Charges

The complaint charges that:—

1. Merck & Co., Inc., of Rahway, and its subsidiary conspired with Merck of Darmstadt to divide world territory into noncompetitive areas by means of what they themselves describe as a "treaty," dated November, 1932.

2. Under terms of this "treaty," Merck of Rahway was assigned the United States and Canada as exclusive territory; while Merck of Darmstadt was assigned almost all the rest of the world, including Latin America. The "treaty" also provided that Cuba, the West Indies, and the Philippines were joint territory in which conditions of sale and prices were fixed by agreement.

3. Since the British blockade after outbreak of the war in 1939 prevented Merck of Darmstadt from exporting to many foreign countries, particularly to Latin America, it was agreed between the German and American companies that Merck of Rahway would supply Darmstadt's agents in South America but that the territorial provisions of the 1932 "treaty" remained in effect, with Latin American markets returned to Merck of Darmstadt as exclusive territory after the war.

4. To carry out this agreement Merck of Rahway revived a dormant subsidiary, Powers - Weightman - Rosengarten Corporation, to engage during the war in export business in territory assigned exclusively to Merck-Darmstadt. The purpose of using this dormant subsidiary was to enable Merck of Rahway more easily to abandon its export business in Darmstadt's territory after the war.

5. Merck of Rahway not only intends to abandon all its export business in Darmstadt's territory after the war but to continue the territorial division provided in the 1932 "treaty" until 1962.

6. The agreement covers approximately 400 pharmaceuticals and chemicals, including quinines, sulfa drugs, vitamins, narcotics and mercurials.

—*Continued on page 79*

OPD Price Index

The OIL, PAINT AND DRUG REPORTER's relative record of prices for chemicals and related materials is currently as follows:—

Oct. 29, 1943	Oct. 22, 1943	Oct. 30, 1942
138.1	**137.4**	**138.4**

The base of the OPD Price Index is the average of prices in 1926 and 1936, those years representing extremes of price undulations in the interwar period.

Exalted ideas about prices of botanical drugs, medicinal essential oils, and naval stores gave a substantial boost to the general average of prices in the markets for chemicals and related materials last week. Synthetic camphor also was in that part of the movement. Imported casein was again on the down side.

Shortages were developing more rapidly among natural materials of vegetable origin. It was generally predicted that prices would show the customary relationship to this condition.

The general movement of goods was but slightly changed from the preceding week. Transportation conditions contributed at least as much as those of supply to the situation.

Most activities of war control agencies were loosening. A ceiling on furfural was one exception.

Bids Wanted

Antifreeze:—Office of the Commissioner of Purchases and Supplies, City Hall, Cleveland; Ordinance No. 1073-43, opening November 4.

Glucose:—1,400 pounds, Chief Clerk, Department of Justice, Bureau of Prisons, U. S. Penitentiary, Terre Haute, Ind.; invitation 31-1510, opening November 3.

Oleomargarin, colored:—300,000 pounds, Chief, Procurement Section, Fats and Oils Branch, War Food Administration, Food Distribution Administration, Washington (25); announcement FSC 1699, opening November 1.

Phosphate, trisodium:—1,950 pounds, Supply Officer, Veterans' Administration, Bronx (63), N. Y.; invitation 44-147, opening November 3.

Salt:—50 tons, Chief Clerk, Department of Justice, Federal Reformatory, Chillicothe, Ohio; invitation 5-1771, opening November 1.

Soap and Cleaning Material:—Office of the Commissioner of Purchases and Supplies, City Hall, Cleveland; Ordinance No. 286-43, opening November 4.

Superphosphate:—1,000,000 tons as required during the period January 1 to June 30, 1944, Division of Purchase, Sales and Traffic, Department of Agriculture, Washington (25); invitation 333-44, opening November 10.

Vinylite:—As required during the period ending June 30, Division of Purchases & Sales, Department of Commerce, Washington; invitation 32561, opening November 4.

—O-P-D—

Gasoline Gum Inhibitor Exportation Facilitated

OPD Washington Bureau

Because of the uncertainty of shipping conditions, exporters of gasoline gum inhibitors are not restricted quite so closely as domestic consumers in their handling of these products. Interpretation No. 1 of allocation order M-354, by WPB October 29, provides that an authorized purchaser of gum inhibitors for export may not require postponement of delivery date by an authorized supplier beyond the tenth day of the month following the authorized delivery month; but after he has accepted delivery, he may export the inhibitors without regard to the forty-five-day limitation under which domestic consumers must use the material. Moreover, the use of inhibitors outside the United States and its territories or possessions is not subject to control of order M-354.

—O-P-D—

Petrol Corp. Appeal From WPB Suspension Denied

OPD Washington Bureau

The appeal of the Petrol Corporation, Philadelphia, from a suspension order limiting its operations as a fuel-oil dealer for a specified period has been denied by the hearing administrator of the Office of Price Administration, OPA has said.

—O-P-D—

BUY WAR BONDS—INVEST 10% OF YOUR WEEKLY PAY

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Paper Shipping Sacks L-Order Clarified

OPD Washington Bureau

The War Production Board's paper shipping sacks limitation order L-279 has been amended and clarified to make it more practicable and workable, in view of the present paper shortage, J. F. Zeller, chief of the paper and textile bag section of the Containers Division has announced.

Wet strength paper markings were defined in order to identify this type of paper and aid in sorting papers in salvage work. After December 1, 1943, all wet strength paper used in the manufacture of single wall, duplex and multiwall paper shipping sacks must be distinctly colored, stained or printed or marked with longitudinal stripes spaced not less than two inches nor more than ten inches across the width of the paper. The stripes are required to be not less than one-eight inch in width. No other grade of paper used in the manufacture of such shipping sacks may be so marked. The new requirements do not affect any stocks in hand and ready for use as of October 27, 1943, it was explained by Mr. Zeller.

Other changes in the order included the elimination of former paragraph (e) since its restrictions affecting Schedule I were obsolete, and the extension of the restrictions covering the use of paper shipping sacks for shipping over 50 pounds of cereal products as well as flour. The use of 70-pound paper has been added to those types permitted in manufacturing multi-wall sacks, but paper quality specifications were eliminated because they were found impracticable. Three-bushel bags for packing cotton seed and one-half bushel bags for packing hybrid seed corn were added to Schedule II.

In addition, requirements for certification for export use were eliminated. The fixing of a statement on the purchase order to the effect that the sacks ordered are for packing the commodities listed for export is now required, thus eliminating considerable paper work.

—O-P-D—

Burlap Bags Ceiling Prices Are Revised

OPD Washington Bureau

Ceiling prices for new burlap bags have been decreased slightly in the Western part of the country by the Office of Price Administration today, and increased slightly in the middle section and near ports of actual arrival of burlap. However, the general level of bag prices was not changed.

The action parallels the burlap price equalization. It was taken by changing the formula for calculating maximum prices for burlap bags so that freight costs are included in the factor based on cost of the burlap, instead of in the "conversion margin." This carries over the price action on burlap directly to the price of the burlap bags.

The text of the amendment tells the producer how he should make the calculation. It is amendment No. 3 to Maximum Price Regulation No. 151.

Oil, Paint and Drug Reporter, Vol. 144, No. 18, November 1, 1943. Published weekly by Schnell Publishing Company, Inc., 59 John St., New York 7, N. Y., U. S. A. Tel. REctor 2-9820. Subscription price:—United States and possessions, Cuba, Mexico, Central America and South America, $5; Canada and Newfoundland, $7; other countries, $10. Entered as second-class matter, January 15, 1884, at the New York Post Office under the act of March 3, 1879. Copyright, 1943, by Schnell Publishing Company, Inc.

Pacific Coast Geologists Elect Reese President

Richard G. Reese, geologist for the Standard Oil Company of California, was elected president of the Pacific section American Association of Petroleum Geologist at the annual meeting in Los Angeles, October 15. Glen Bowes of the Continental Oil Company was elected vice-president, and Robert White of the Barnsdall Oil Company secretary-treasurer.

It was brought out at the meeting that surface indications of oil structures have practically been exhausted and that the business has now developed into a most exacting science where exhaustive studies of even the slightest underground indications are necessary.

—O-P-D—

Consumer Goods Order Interpreted

A number of questions relating to operations under order L-219 (consumers' goods inventory limitation) are clarified in interpretation No. 3 to the order issued today by the War Production Board.

Among the problems dealt with in the interpretation are:—the status of various types of receipts in relation to mercantile inventory; the treatment of goods not yet processed into final form; the position of converters under the order; the status of repossessed, replevined, abandoned merchandise and trade-ins; clarification of the definition of personal services and the status of consumers' goods used in performance of the services; application of the tolerance factor for a controlled merchant who maintains mercantile inventories in both the East and the West; and the effect under L-219 of the acquisition of a new story by a controlled merchant.

—O-P-D—

Textile Paper Contest Won by Philadelphia

The Philadelphia Section's paper studying the minimum amount of chrome required for afterchrome dyeing has been judged best among the seven competing papers in the fourth annual intersectional contest of the American Association of Textile Chemists and Colorists, presented October 22 in the Downtown Athletic Club, this city. The paper prepared by the Northern New England section won second honors, and that of the New York section third.

The winning paper was based on tests made on wool dyed without chrome, with chrome, and with chrome under definite dyeing conditions. More than 1,000 tests of eleven

—*Continued on page 72*

—O-P-D—

Copper Scrap Order Amended by WPB

To cut down on paper work, the War Production Board has issued supplementary order M-9-b, as amended, providing that generators of copper scrap amounting to 5,000 pounds or more per month report on Form WPB 452. Heretofore those generating 500 pounds or more were required to file. The total amount of scrap affected by the change will amount to only about 2½ percent of the total which was previously reported. In no event shall any person keep on hand more than 30-day accumulation unless such accumulation aggregates less than one ton.

—O-P-D—

Paint Dramatists Lunch

Seven members of the New York Dramatic Club, a member of the paint and varnish community, gathered for luncheon while attending the Cleveland conference of the Federation of Paint and Varnish Production Clubs. Mr. and Mrs. James Frederickson were hosts.

—O-P-D—

Tolu Up 37% in Britain Since January 1

LONDON, Oct. 29, 1943

Prices on tolu balsam 15s. 6d. per pound, against 11s. 6d., in May, and 9s. 9d. last January.

—O-P-D—

Alphapinene Prices Rise

Alphapinene prices were advanced on Friday. The schedule was:—Tanks, 74½c. per gallon; drums, car lots, 77½c.; less car lots, 79½c.

Washington Talks It Over

Observations • Prognostications • Developments

By OPD Observer

Latest WPB statistics indicate that we have about reached the limit of our production ceiling, and the job ahead is no longer one of obtaining new overall records, but one of raising the output of specific items. September's munitions production index stood at 614 percent of November, 1941, output, a gain of only one point over the preceding month or hardly enough to be recorded percentagewise.

What amounts to a leveling off of the production index is owing to several causes—the fact that some of the programs are being cut back or are in anticipation of a cutback; changes in designs; failure of parts or materials to arrive on time; and shortage of labor. The last is the most common complaint advanced and is the outstanding difficulty now facing the chemical industry which already is experiencing declines in some items from this cause.

The most difficult production problems that remain are concentrated in the major programs where important further increases are required, such as airplanes and airborne signal equipment. While September plane production was 14 less than in August, the types produced were those most urgently needed. Heavy bombers not only met schedule, but ran 6 percent ahead of August and as a result, output as a whole was up 3 percent on an airframe-weight basis.

Cinchona Plantings

A new chapter in the Odyssey of 2,000,000 cinchona seeds snatched from under the noses of the Japanese in the Philippines by Colonel Arthur F. Fischer after the fall of Bataan is now opening in Central and South America.

Seedlings grown from these precious seeds at the Department of Agriculture's plant introduction garden at Glendale, Md., have been shipped to Peru, Ecuador, El Salvador, and Nicaragua. About 50,000 seedlings went to the agricultural experiment station at Tingo Maria Peru; the same number to the cooperative stations near Quevedo in Ecuador; about 5,000 to the San Andres cooperative station in El Salvador; and about 2,000 to the El Recreo cooperative station in Nicaragua. There has been some loss of plants but a good part of the seedlings are still flourishing.

The Glendale station has an additional 250,000 seedlings from five to eight months old for shipment at an early date.

New Activated Charcoal

The War Department has lifted one corner of the veil of secrecy that has covered the substance used by it in gasmask canis ers as a substitute for activated charcoal made from South Sea island coconut shells which haven't been obtainable since the start of the war.

As a result of long hours of research the Chemical Warfare Service discloses that an activated charcoal has been produced from sawdust, wood, coke, and even coal, which is superior to that made from coconut shells in ability to absorb toxic gases. The department doesn't say how it's done but experiments are continuing to bring about further improvement.

Harvesting Cryptostegia

The cryptostegia rubber vine, Haiti's contribution toward solution of the rubber problem, is now being tapped by mass production methods, according to word just reaching here from that island. The vine is a project of SHADA (which means Haitian-American Development Corporation) and has been planted over an area of 32,000 acres—to be expanded by the end of the year to 85,000 acres.

Tapping of the vine for latex is one of the biggest obstacles confronting those attempting to use cryptostegia for rubber. The problem has been solved partly with the aid of half-pint milk bottles. About ten stems of the vine are clamped together, the ends then cut off and the flow of latex concentrated so that it goes into a single bottle. About 15,000 acres already have been tapped in this manner.

Officials expect about 300 pounds of rubber per acre from the vine. This compares with about 1,000 pounds per acre from hevea trees which produced the bulk of the world rubber supply in prewar years. A new strain of cryptostegia has been found that produces three times as much latex as other strains. Properly developed, officials believe, it offers in eresting possibilities as a postwar competitor with hevea.

War Loan Overflowed

Final tabulations show that the $150,000,000,000 third war loan drive went over the top by $3,900,000,000. And of equal interest is the fact that the quota for individuals exceeded the $5,000,000,000 goal by $377,000,000. Sales to corporations, associations and other investors were $12,900,000,000, against a quota of $10,000,000,000, and government trust accounts took the other $630,000,000.

Success of the drive appears to vindicate Secretary Morgenthau, who has been up against increasing pressure within his own administration as well as in Congress, that a compulsory savings program will be necessary for the Treasury to continue financing the war from borrowed funds. Mr. Morgenthau has insisted that the voluntary system is still in good working order and the success of the recent drive bears out his predictions.

Rubber-Substitute Tires

As long as it appears that you are going to be dealing with "synthetic rubber" tires for some years to come, it may be worth your while to get acquainted with the classification by types. Currently, the different combinations used in "synthetic rubber" tires and their technical names are as follows:—

S-1—80 percent synthetic tread on natural rubber carcass.

S-2—50 percent synthetic tread on natural rubber carcass.

S-3—100 percent synthetic tread, 100 percent synthetic carcass, an all-synthetic tire.

S-4—90 percent synthetic, 10 percent natural rubber, distributed throughout the casing as the manufacturer may desire.

S-5—100 percent synthetic tread on natural rubber carcass.

S-6—70 percent synthetic, 30 percent natural rubber, distributed throughout the casing as the manufacturer may desire.

S-7—Alternate for S-5 permitting the manufacturer to vary the amounts of synthetic and natural between carcass and tread.

A lot of dust will blow down the road before you will be able to buy any of these types of rubber-substitute tires without a ration certificate, but there is a note of encouragement in the fact that production of "synthetic rubber" tires is being speeded up and is expected to get in full swing sometime in the Spring of 1944.

Margarin Tax Totters

The embuttered dairy bloc's grip on the margarin industry is slipping. There is a good chance that Congress may repeal the ancient law imposing Federal taxes on margarin, passed years ago at the behest of the dairy farmers, if things shape up the way the Southern congressmen have them planned.

Hearings opened in the house this week on the Fulmer bill (H.R. 2400) lifting Federal restrictions on margarin to bring to the surface a fight that has been brewing since the first of the year within the congressional farm bloc. And on the issue, the bloc shows evidence of a wide split. Pound for pound, the committee was told by leading scientists and nutritionists, present-day margarin is nutritionally equal to butter and there is no more reason for it's being taxed than there is for taxing oatmeal.

Most of the support for repealing the taxes comes from the cotton belt

—Continued on page 43

Linseed Oil Supply Easing Indicated

OPD Washington Bureau

Further indications of an easing of the linseed oil supply situation making possible greater amounts becoming available for use in the protective coatings industry and for other civilian uses became apparent October 27 when the War Food Administration reduced the amount of linseed oil that must be set aside from current production from 45 to 25 percent and terminated an order which required holders of more than 240,000 pounds to reserve 25 percent of their inventories for war needs.

Flaxseed crushers have been setting aside 45 percent of their raw oil production on Food Distribution Administration option since last June when FDO No. 65—the set aside order—become effective. An amendment to the order, effective October 26, not only reduced this percentage to 25 percent, but also liberalized its sales provisions.

Crushers may now sell at any time

—Continued on page 69

—O-P-D—

Fatty Acid Inventories Limited by WFA Order

Fatty acid inventories, excluding fatty acids produced by the user, will be limited FDO No. 87, issued by the War Food Administration, effective November 1, to a 60 days' supply. The limitation is based on the quantity of fatty acids used during the six months beginning January 1, 1943, and non-producing users may figure their 60 days' inventory as one-third of the aggregate consumed in that half-year period.

The order does not apply to crude and refined tall oil, and raw or acidulated foots from the refining of animal, vegetable, fish or marine animals fats and oils. It does apply to all other fatty acids produced from these oils, and purchased by the users, whether distilled or undistilled.

—Continued on page 74

—O-P-D—

Fats May Be Used In Lubricating Greases

OPD Washington Bureau

Fats and fatty oils again may be used in the manufacture of certain lubricating greases without regard to the proportion of fatty acids used in the manufacture of those oil products, Deputy Petroleum Administrator for War Ralph K. Davies has announced. Action was taken by revoking a formal order, petroleum administra ive order No. 10, which was issued on March 27, 1943, and which prohibited the use of fatty oils in excess of 50 percent by weight of the combined fatty acids plus fatty oils consumed in the production of certain types of lubricating greases.

—O-P-D—

Linseed Meal Prices For Pacific Coast Set

To meet a situation caused by a smaller crop of flaxseed than normal in Southern California and Mexico, the Office of Price Administration has amended regulation No. 370.

OPA established a maximum price of $46 a ton for linseed meal or cake sold in carload lots and $47.50 a ton for pea sized meal or pellets for Los Angeles mills for flaxseed with a protein content of 34 percent or more. This is the same as the maximums for San Francisco mills.

—O-P-D—

Furfural Tankcar Prices Ceiled by OPA

OPD Washington Bureau

Maximum prices of furfural in tankcar lots at the producers' level were ceiled at 9½ cents a pound f.o.b. producer's plant by the Office of Price Administration October 28. Action was taken in amendment 43 to Revised Supplementary Regulation 14 and is effective November 1.

The maximum price applies only to sales in tankcars, and all differentials, discounts, allowances and trade practices in effect on sales of furfural by a producer during March, 1942, continue to apply to the base maximum tankcar price.

Wooden Containers Use Narrowed

OPD Washington Bureau

A prohibition on use of wooden containers for shipment of a large number of products in the chemical and allied fields and restrictions on such use for a number of other products was imposed in an amendment to limitation order L-232 announced October 23 by the War Production Board.

The prohibitions or restrictions on the use of wooden containers do not apply in the case of shipments to the military or export, or to shipments in wooden barrels, kegs, drums, kits or pails, except in the case of soda ash, bicarbonate of soda, and salt. Products which may no longer be shipped in wooden containers include the following:—

Building Materials:—Asphalt roofing (rools or shingles), siding and tiles; cement*; cork (except pipe covering and slabs); plaster, cement lime, gypsum (this does not include dental, orthopedic and industrial mold grades); roof coatings and cements*.

Foods:—Baking powder; cocoa; coffee; cornstarch*; food seasoning, coloring and related products*; gelatins*; tea.

Paper Products:—Advertising displays, counter, window or floor; announcements; calendars; catalogues; magazines, including house organs; posters.

Miscellaneous:—Adhesives or cements,

—Continued on page 39

—O-P-D—

Metal Cans Quotas Revised by WPB

OPD Washington Bureau

Conservation order M-81 restricting the use of metal cans for packing foods and other products was amended October 23 by the War Production Board to increase the packing quotas for paints from 55 to 65 percent of the 1942 pack.

At the same time the board amended th order to except from its restrictions, fiber or paper bodied cans with ends made of sheets recovered from used cans. Permission to accept delivery of used cans or sheets recovered from used cans for this purpose, however, must be obtained on Form WPB 2825, as provided under Conservation Order M-325.

—Continued on page 79

—O-P-D—

Paint Specifications For Steel Drums Issued

All steel drums supplied to the Army Service Forces and Army Air Forces in olive drab color will be painted with one coat of material conforming to Army Specification 3-181, type 2 or 3 for composition, and conforming to color number 108 of Color Card Supplement to U. S. Army Specification 3-1, revised April 21, 1943, the War Production Board has announced.

The use of present stocks of protective coatings, conforming to Ordnance Specification AXS-904 as previously designated by the Army Service Forces or Army Air Forces specification 14120, required by either agency, will be permitted. It is requested that prime contractors advise military contracting offices of the dates on which their present stocks of protective coatings will become exhausted, and the date upon which they will begin using material complying with specifications 3-181, referred to above.

—O-P-D—

Mica Conservation Policy Established

OPD Washington Bureau

Because of a serious depletion in stockpiles of better qualities of mica, the War Production Board has acted to conserve supplies of this material. Users of high-quality mica are being notified that the board will undertake to provide only sufficient quantities of these qualities to maintain consumption at the average rate maintained during the first nine months of 1943. This policy will become effective about December 1.

The system will be subject to revision quarterly, at which time the ratio of new allocation for capacitor production may be increased or decreased, depending on the receipts of mica in the government stockpile during the preceding quarter.

What's new at NYQ

Recently installed, this new equipment has helped immensely in increasing output and speed of delivery. This is just one of the many N. Y. Q. installations added to meet war-time needs.

At N. Y. Q. today, many new departments have been installed. New equipment has been added. Automatic machinery is speeding up production to meet the requirements of a nation at war.

Right now, a large part of our production is going to the government. At the same time, we are making every effort to supply our regular customers with as much N.Y. Q. material as possible.

We look forward to the time when, with the many added facilities, we can again take care of our customers through normal consumer channels.

NYQ

GENERAL OFFICES
99-117 North Eleventh St.
Brooklyn, N. Y.

ST. LOUIS DEPOT
915 Market Street
St. Louis, Mo.

Symbol of Quality

THIS NYQ LABEL CARRIES WITH IT SIXTY SEVEN YEARS OF EXPERIENCE

Potash Supplies Outlook Improved

OPD Washington Bureau

A slight improvement in the outlook for potash supplies over conditions existing a month ago has been reported to the fertilizer industry by the War Production Board.

At a recent meeting of the Fertilizer Industry Advisory Committee with officials of WPB, the War Food Administration and the Office of Price Administration, it was stated that due to anticipated release of part of the 60,000 tons of muriate reserved for lend-lease shipment to the United Kingdom, plus some muriate that was not expected to be available for fertilizer purposes, it now appears that an additional 30,000 tons of muriate will be available for allocation to fertilizer during the second period.

There will also be about 12,000 additional tons of manure salts for the second period, thus making an aggregate increase for that period of approximately 5 percent of the original allocation for that period, according to the National Fertilizer Association in reporting the meeting. While the increase now appears probable it is not definite, however, and it will not be allocated in any event before the first of December, it was added.

It is also expected, the association said, that there will be available for allocation during the third period about 12 percent of the total amount allocated for the second period, instead of about 10 percent. If all these increases materialize the total allocations for the current twelve months (June 1, 1943-May 31, 1944) will be between 90 and 95 percent of the two-year average of 1941-42 and 1942-43.

—O-P-D—

Fertilizer Materials Redefined by A.O.A.C.

OPD Washington Bureau

The fifty-eighth annual meeting of the Association of Official Agricultural Chemists was held here October 27 and 28 and closed with the election of a new official slate, adoption of several amendments to definitions of fertilizer materials, and decisions to continue studies of methods of analysis of a wide variety of food, drugs, paints and other chemical products.

Officers elected for the coming year were:—President, G. G. Frary, State Chemical Laboratory, Vermilion, S. D.; vice-president, J. O. Clarke, chief, central division, Food and Drug Administration Laboratory, Chicago, Ill.; secretary-treasurer, Henry A. Lepper, Food and Drug Administration, Washington. Members of the executive committee are:—G. H. Marsh, Montgomery, Ala., W. H. Ross, Beltsville,

—*Continued on page* 41

—O-P-D—

Texas Cottonseed 'Trust' Trial Starts Nov. 8

Texas State Attorney-General Gerald C. Mann has announced that the Llano district court is scheduled to begin trial November 8 against ten companies which allegedly violated the antitrust laws by agreements upon prices to be paid for cottonseed.

The Attorney-General filed two suits, covering originally a total of six companies. These were Swift & Co., West Texas Cotton Oil Company, Southern Cotton Oil Company, Magnolia Provision Company, Midlothian Oil & Gin Company, and Southland Cotton Oil Company. The Southland Company recently paid $10,000 penalty and the State's complaint was dismissed after the Llano court issued a permanent injunction against the concern entering into price-fixing agreements.

In an amended petition, the Attorney-General added five more defendants to the case. These are Anderson, Clayton & Co., South Texas Cotton Oil Company, Richmond (Texas) Cotton Oil Company, Consumers Cotton Oil Company of Dallas, and Wesson Oil & Snowdrift Company, a Louisiana corporation with offices at Houston.

Swift & Co. and Midlothian Oil & Gin Company have asked the Court of Civil Appeals at Austin to order venue in their case transferred to their home counties, Tarrant and Ellis, respectively.

Bowles Nominated To Succeed Brown

OPD Washington Bureau

The nomination of Chester Bowles to be administrator of the Office of Price Administration, succeeding Prentiss M. Brown who resigned last week, was sent to the senate for confirmation October 25 by President Roosevelt.

Mr. Bowles, former State Administrator of OPA for the State of Connecticut, has been general manager of OPA since August.

WPB Consumers Goods Bureau Chief Resigns

OPD Washington Bureau

H. G. Batcheller, Operations Vice-Chairman of the War Production Board, has announced that he had accepted the resignation of Lewis S. Greenleaf, jr., as director of the Consumers Goods Bureau. Mr. Greenleaf came to WPB in March, 1942, as chief of the Special Industrial Machinery Branch. On October 1, 1942, he became Assistant Deputy Director General for Industry Divisions, and in December of that year was appointed director of the Consumers Goods Bureau.

—O-P-D—

Metal Ores Wage Rate Hearing Oct. 23

OPD Washington Bureau

Public hearings will be held November 28 by the Wage and Hour Division of the Depar ment of Labor on recommendations of Industry Committee No. 66 for the metal ore, coal, petroleum, and natural gas extraction industries that a minimum wage of 40 cents an hour be paid workers in these industries, it was announced October 23 by the division. Hearings will be held in room 1001, 165 Wes 46th street, New York 19, N. Y.

—O-P-D—

Jr. Chemical Engineers To Hear Dr. W.J. Hale

Dr. William J. Hale, search consultant to the Dow Chemical Co., Midland, Mich., will address the Junior Chemical Engineers of New York on November 9 on the subject "The Shape of Industries to Come." Meeting place will be Child's Restaurant, 109 West Forty-second Street, with dinner at 7 p.m.

Foreign Administration Setup Announced by Crowley

OPD Washington Bureau

Foreign Economic Administrator Leo T. Crowley has announced the organization and staff of the Foreign Economic Administration, the agency he was appointed to head upon its creation September 25. The new organization, which was worked out in conjunction with the Bureau of the Budget, accomplishes a complete unification and stream-lining of the foreign economic operations formerly carried on by the Office of Economic Warfare, the Office of Foreign Relief and Rehabilitation, the Office of Lend Lease Administration, such parts of the Office of Foreign Economic Coordination as may be transferred from the State Department, and the foreign procurement activities of Commodity Credit Corporation.

In the most far-reaching consolidation of government agencies of this war, Mr. Crowley stated that all functions of the merged agencies have been transferred to FEA and that their identity as separate agencies is being terminated. Within the next few days, a series of administrative orders will be issued defining more completely the responsibilities and duties of the various officials, offices and bureaus of the new agency and setting forth the specific operating units of the constituent agencies which will be merged.

Mr. Crowley emphasized that effective liaison arrangements are being worked out between FEA and State Department. Under the terms of the executive order establishing FEA, the Administrator is given authority for foreign economic operations of the consolidated agencies in conformity with our foreign policy as defined by the Secretary of State. The Foreign Economic Administrator also made clear that the unification of these agencies on the domestic front paves the way for comparable action abroad. The general organization plan of the Foreign Economic Administration, under the Administrator, is announced to be as follows:

Deputy Administrators

Two Deputy Administrators, an executive advisor, a special assistant to the administrator, and several assistants to the administrator will assist and assume responsibility on behalf of the administrator in directing activities and determining policies to the extent assigned by the administrator.

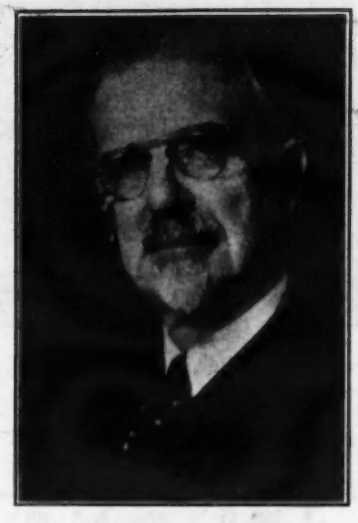
The six staff offices (the duties of which are generally indicated by their title) will include: Office of the General Counsel, Office of Economic Program Staff, Office of Organization and

—*Continued on page* 85

—O-P-D—

Cohoe Installed As S.C.I. President

Wallace P. Cohoe, of New York, was inducted as president of the Society of Chemical Industry, international organization with headquarters in London, at a dinner meeting held in the



Wallace P. Cohoe

Waldorf-Astoria. About 800 chemists and industrialists attended. The meeting was under the patronage of King George VI. The British Government was represented by Sir Gerald Campbell, K.C.M.G., British Minister at Washington, who presented the chains of office to Mr. Cohoe and delivered an address.

Honorary membership in the society was bestowed on Academician Alexei Bach, Soviet biochemis , and Dr. Te-Pang Hou, Chinese industrial chemist. A scroll citing his contributions to chemical industry was presented to Dr. Hou by Dr. Wei Tao-Ming, Chinese ambassador to the United States. The citation extolling the

—*Continued on page* 43

Industrial Medical Problems To Be Discussed Nov. 3 and 4

A wartime conference on industrial medical problems will be held in Cincinnati, Ohio, November 3 and 4 by Hercules Powder Company, Wilmington, Del., for the company's plant physicians and plant executives. About 60 persons, representing Hercules plants and offices in all parts of the country, the Army, the U. S. Public Health Service, and several medical organizations will attend the two-day conference to be held at the Hotel Netherland Plaza.

Hercules plant physicians will present fifteen technical papers pertaining to medical problems encountered at the company's chemical and explosives plants, including ordnance plants operated by Hercules for the War Department. Plant executives will lead roundtable discussions after each paper is presented. The preliminary program follows:—

"Psychological Elements in the Treatment of Industrial Injuries," Eric A. Cunningham, M. D., medical director, Missouri Ordnance Works. Discussion opened by L. P. Hall.

"Placing Physically Handicapped Men and Women in Industry," Howard L. Reed, M. D., medical director, Sunflower Ordnance Works, Lawrence, Kans. Discussion opened by R. Rockwell.

"The Pre-employment Examination of Women in Industrial Work." C. L. Gannon, M. D., Kingston, N. Y. Discussion opened by H. V. Chase.

"The Medical Management of Complaints of Women in Industry." W. H. Varney, M. D., Washington, N. J. Discussion opened by A. Van Beek and J. R. Durham, sr., M. D.

"The Periodic Examination of Workers in Toxic Chemicals." L. B. Clinton, M. D., Carthage, Mo. Discussion opened by C. E. Lehmkuhl and R. N. Wheelock.

"The Periodic Examination of Workers in Non-toxic Chemicals." George McL. Waldie, M. D., Ishpeming, Mich. Discussion opened by A. B. Ritter.

"Industrial Dermatoses." John F. Preston, M. D., medical superintendent, Volunteer Ordnance Works, Chattanooga, Tenn. Discussion opened by M. Wasserman, M. D., and John S. Shaw.

"The 'Weak Back' in Industry." C. F. Holton, M. D., Savannah, Ga. Discussion opened by J. A. Struthers.

"The Psysician's Responsibility in Illness and Injury of Uncertain (occupational or Non-occupational) Origin." T. J. Nereim, M. D., medical director, Badger Ordnance Works, Baraboo, Wis. Discussion opened by J. T. Moore.

"Care of Non-occupational Injuries and Illnesses." Alexander McCausland, M. D., medical director, Radford Ordnance Works, Radford, Va. Discussion opened by F. L. Boddicker.

"Relationships Between the Physician in Industry and the Physician in Private Practice." Dean Moffat, M. D., Magna, Utah. Discussion opened by D. D. Burch, M. D.

"Preventive Medicine in Industry." C. B. Greer, M. D., Brunswick, Ga. Discussion opened by G. H. Pfeiffer.

"The Use of the 'Termination of Employment' Examination." C. A. Plume, M. D., Succasunna, N. J. Discussion opened by A. H. Reu.

"The Approaches to an Adequate Study in Instances of Suspected Occo-

—*Continued on page* 79

Lead Limit in Air Standardized by A.S.T.M.

The American Standards Association has announced approval of a new standard, "Allowable Concentration of Lead and Certain Inorganic Compounds (Z37.11-1943)." The standard sets safe limits for the amount of metallic lead, lead carbonate, lead sulphate, lead oxides, lead nitrate and lead chloride allowable in the air of industrial workshops, to safeguard the health and efficiency of the worker. It covers the physical and chemical properties of the substance, summarizes methods of test and includes a comprehensive bibliography.

The committee has approved ten standards on toxic dusts and gases (Z37-1-1941 to Z37.10-1943) previous to this one and is working on several other substances now, including safe limits for formaldehyde, toluene, and carbon tetrachloride.

Allowable concentrations of lead and certain inorganic compounds sell for 20 cents and may be obtained from the American Standards Association, this city.

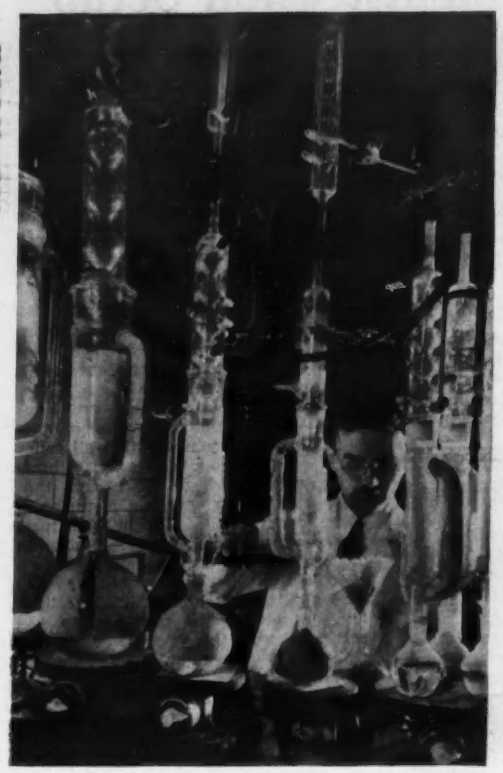
—O-P-D—

Heat Exchanger Defined Under G-L Order L-172

OPD Washington Bureau

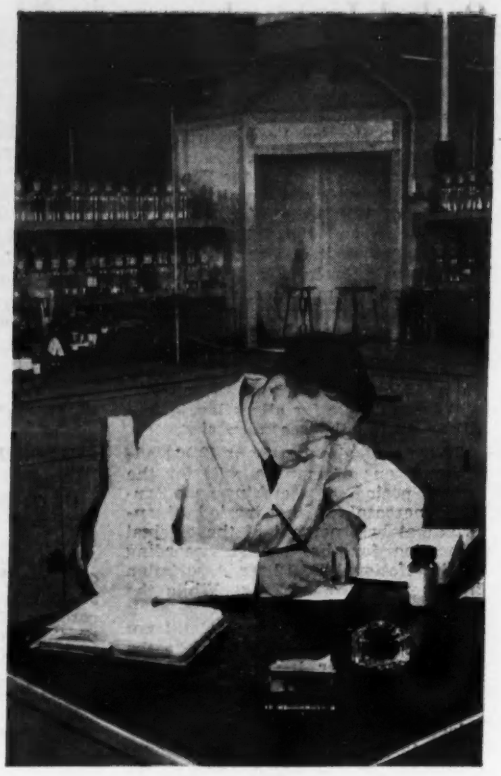
An amendment, issued October 26, to general limitation order L-172 introduces therein an extended definition of "group II critical heat exchanger," which includes non-metallic exchangers for experimental laboratory use. It also provides for conditional acceptance by a manufacturer of the defined heat exchangers of orders bearing a preference rating of AA-5 or higher.

OPD—11-1-1943



Merck Ephedrine is the result of extensive chemical research.

A step in the production of Merck Ephedrine on a commercial scale.



The purity and uniformity of Merck Ephedrine are ensured by rigid laboratory control.

Merck EPHEDRINE

- **It is identical with the natural alkaloid.**
- **It is officially recognized by *The United States Pharmacopoeia.***
- **It is independent of foreign sources of supply.**

AN important contribution to the American chemical industry was the evolution of Merck Ephedrine, and its production on a commercial scale. This product, *identical with the natural alkaloid* and officially recognized by *The United States Pharmacopoeia*, established an independence of the foreign source of supply for American consumers. Pharmacologic and clinical tests have proved that its action and therapeutic effects are identical with those of the natural product.

Merck Ephedrine is available in the form of the hydrochloride and sulfate, for use in powder, capsules, nasal jellies, aqueous solutions for application to mucous membranes, and as the alkaloid for solution in light liquid petrolatum.

MERCK EPHEDRINE IS AVAILABLE IN THE FOLLOWING FORMS:

- Ephedrine Alkaloid Anhydrous U.S.P.
- Ephedrine Alkaloid U.S.P. (Hemihydrate) Water content 5.17%
- Ephedrine Hydrochloride U.S.P.
- Ephedrine Sulfate U.S.P. Crystals and Powder

RACEMIC EPHEDRINE IS AVAILABLE AS:

- Racemic Ephedrine Alkaloid
- Racemic Ephedrine Hydrochloride
- Racemic Ephedrine Sulfate

MERCK & CO., Inc. *Manufacturing Chemists* **RAHWAY, N. J.**

New York, N. Y. • Philadelphia, Pa. • St. Louis, Mo. • Elkton, Va. • Chicago, Ill. • Los Angeles, Cal.

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Current Market Quotations Chemicals and Related Materials

October 29, 1943

Unless otherwise indicated, quotations are first-hands on large lots, f.o.b. New York. Price changes and trends are noted in the market reports, with other informative comment. The locations of these reports are given in the table of contents on page 4.

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A

Acacia (see Gum, Arabic).
Acetaldehyde,[4,6] 99%, dms., 55 and 110 gls., works..lb. .11 - —
5 and 10 gls., works.....lb. .14 - —
Acetaldol (see Aldol).
Acetamide, CP, fib. dms., 5,000 lbs. a year, works..lb. .36 - —
smaller lots, works.....lb. .38 - .70
tech., fib. dms., 5,000 lbs. a year, works..lb. .28 - —
smaller lots, works.....lb. .30 - .50
Acetanilide, tech., cryst., bbls.lb. .29 - .31
pewd., bbls.....lb. .27 - .29
USP, cryst., bbls.....lb. .36 - .37
dms. .....lb. .42 - —
kgs. .....lb. .37 - .38
powd., bbls.....lb. .34 - .35
dms. .....lb. .40 - —
kgs. .....lb. .35 - .36
Acetoacetanilide, bbls., fib. dms., 75 lbs. .49 - —
smaller lots.....lb. .67 - —
Acetone, CP,[1,6] dms., c.l., dlvd. E.*..lb. .06¾- —
l.c.l., dlvd.....lb. .09 - —
tanks, dlvd.....lb. .07 - —
* OPA ceiling for East; Western ceiling, ¼c. per lb. higher.
Methyl (see M)
Acetonitrile, dms., c.l., works.lb. .75 - —
l.c.l., works.....lb. .90 - 1.25
5-dm. lots, works.....lb. 1.00 - —
5-gal. lots, works.....lb. 1.25 - —
Acetophenetidin, bbls., kgs., 1,000 lbs..lb. 1.00 - —
dms. .....lb. 1.08 - 1.10
Acetophenone, cns., dms.....lb. 1.35 - 1.60
Acetyl chloride, cbys., works.lb. .60 - —
Acid, abietic, dms., c.l., wks..lb. .07½- —
Acetic,[1,6] com'l or redist., 28%, bbls..100 lbs. 3.38 - 3.63
56%, bbls.....100 lbs. 5.58 - 5.83
70%, bbls.....100 lbs. 6.68 - 6.93
80%, bbls.....100 lbs. 7.47 - 7.72
glacial, nat., CP, cbys.100 lbs.13.50 -13.75
99.5%, bbls.....100 lbs. 9.15 - 9.40
tanks, works.....100 lbs. 6.93 - —
USP, cbys.....100 lbs.11.70 - —
synth., CP., dms., works..100 lbs.12.50 -13.50
99.5%, bbls., works.100 lbs. 9.15 - 9.40
dms., works.....100 lbs. 9.25 - 9.75
tanks, works.....100 lbs. 6.25 - 6.93
USP, dms., works.100 lbs.10.50 -11.00
pure, 30%, bbls.....100 lbs. 4.44 - 4.69
36%, bbls.....100 lbs. 4.86 - 5.11
60%, bbls.....100 lbs. 7.60 - 7.85
80%, bbls.....100 lbs. 9.26 - 9.51

Acetic acid price ranges above are for c.l. and l.c.l. quantities. Carboys and cases are 50c. per 100 lbs. higher.

Acetic, anhydride,[6] dms., c.l., frt. alld..lb. .11½- —
l.c.l., frt. alld.....lb. .13 - —
Acetylsalicylic,[1] special, USP, bbls., makers, primary distrib., point of shipm't., 100 lbs. .45 - —
smaller lots, same basis, lb. .46 - .59
Standard USP, fine cryst., gran. (20-40 mesh), powd. (50 mesh), 200-lb. bbls., same basis..lb. .40 - —
smaller lots, same basis, lb. .40 - .54

Freight equal'd, shipment identical quantity, over standard routes, from N. Y. City, Phila., Midland, Mich., Chicago and St. Louis.

Adipic, fib. dms., works.....lb. .31 - —
Aminoacetic, USP (see Glycine).
Anthranilic, recub., bbls.....lb. 1.20 - 1.25
tech., bbls.....lb. .93 - —
Arsenous[6] tech. (see Arsenic, White).
USP, powd., dms., kgs....lb. .20 - .22
Ascorbic,[1,6] USP, 30-kilo lots, dms..kilo.31.75 - —
10-kilo lots, dms.....kilo.32.10 - —
5-kilo lots, dms.....kilo.32.45 - —
2½-kilo lots, dms.....kilo.33.16 - —
500 grams, dms.....kilo.34.22 - —
Battery, cbys., c.l., E. works, 100 lbs. 1.60 - —
10-25, E. works.....100 lbs. 1.95 - —
1-9, E. works.....100 lbs. 2.35 - —
Benzoic, tech., bbls., 4,000 lbs. or more..lb. .39 - —
1,000 to 3,900 lbs.....lb. .40 - —
900 lbs. or less.....lb. .43 - —
USP, bbls., 4,000 lbs. up..lb. .54 - —
1,000 to 3,900 lbs up....lb. .55 - —
900 lbs. or less.....lb. .58 - .59
dms., 4,000 lbs. up....lb. .55 - .56
1,000 to 3,900 lbs.....lb. .56 - .57
900 lbs. or less.....lb. .59 - .60
Betaoxynaphthoic, bbls., f.o.b. works..lb. .95 - —
Boric,[2] tech., 99.5% cryst., (same as prices for powder), gran., bgs., c.l., frt. alld. ton.99.00 - —
ton lots, ex whse....ton.111.00 - —
less than ton lots, ex whse..ton.116.00 - —
bbls., c.l., frt. alld..ton.109.00 - —
ton lots, ex whse....ton.121.00 - —
less than ton lots, ex whse..ton.126.00 - —
bulk, frt. alld.....ton.95.50 - —
powd., bgs., c.l., frt. alld., ton.104.00 - —
ton lots, ex whse....ton.116.00 - —
less than ton lots, ex whse..ton.121.00 - —
bbls., c.l., frt. alld....ton.114.00 - —
ton lots, ex whse...ton.126.00 - —
less than ton lots, ex whse..ton.131.00 - —
USP $25 per ton higher.
Butyric, 99%, dms., c.l., works, lb. .22 - —
l.c.l., same basis.....lb. .23 - —
tanks, same basis.....lb. .21 - —
Broener's, bbls.....lb. 1.11 - —
Acid, cacodylic, 5-lb. bots.....lb.22.00 - —
Camphoric, cns.....lb. 6.95 - 7.00
Capric, dms.....lb. .21½ Nom.
Caprylic, dms.....lb. .27 - .27½
Castor oil,[5] split, dms.....lb. .20¾- .21¼
Chlorosulphonic, dms., c.l., wks. lb. .03 - —
l.c.l. .....lb. .03½- .04½
tanks, works.....lb. .02½- —
Chromic,[6] 99½-99¾%, dms., c.l. lb. .16¼- —
l.c.l. .....lb. .16¾- .18¼
Cinnamic, refd., bots.....lb. 3.50 Nom.
Citric,[1,6] anhyd., gran., dms., c.l..lb. .22½- —
10,000 lbs., 1 ship't..lb. .23 - —
smaller lots.....lb. .23½- .26½
kgs. .....lb. .24 - —
cryst., gran., bbls., c.l.....lb. .20 - —
10,000 lbs., 1 shp't....lb. .20½- —
smaller lots.....lb. .23 - .24
kgs. .....lb. .21½- —
Citric acid powd., ½c. higher.
Cleve's, bbls.....lb. .65 - —
Coconut oil,[5] dist., dms.....lb. .18½ Nom.
Cottonseed oil,[6] dist., dms...lb. .14 - .14½
tanks .....lb. .13½- —
Cresylic (coaltar),[2,6] high-boil 50% (210°-215°), low boil 50% (204°-206°), and special blends, dms., c.l., works, frt. equald..gal. .81 - —
l.c.l., same basis....gal. .83 - —
tanks .....gal. .75 - —
Diethylbarbituric (see Barbital).
F (see Acid, Monosulphonic).
Formic, dom., 90%, cbys., c.l., works..lb. .10½- —
l.c.l. .....lb. .11 - .11½
Fumaric, tech., bbls.....lb. .27 - .31
Gallic, NF VII, bbls.....lb. 1.27 - 1.30
fib. dms.....lb. 1.34 - —
technical, bbls.....lb. 1.05 - 1.13
Gamma, bbls.....lb. .85 - —
Gluconic, bbls., 50% lbs.....lb. .12 - —
kgs., 100 lbs.....lb. .15 - —
dmjn. .....lb. .21 - .23
H, bbls.....lb. .45 - —
Hydriodic, 45-47%, cbys.....lb. 2.42 - 2.44
5-lb. bots.....lb. 2.57 - —
57%, bots.....lb. 2.90 - —
Hydrobromic, conc., cbys....lb. .35 - —
dil., cbys.....lb. .29 - —
Hydrochloric (see Muriatic).
Hydrocyanic, cyls., works...lb. .80 - 1.00
Hydrofluoric, 30%, rubber dms., works...lb. .08 - .09
48%, rubber dms., works...lb. .12 - —
52%, rubber dms., works...lb. .12¾- —
60%, rubber dms., works...lb. .13½- —
Hydrofluosilicic, 30-35%, bbls.lb. .08 - .09
Hydroxyacetic, 70% tech., bbls., nonreturn., Phila..lb. .084 - —
tanks, works, basis acid content..lb. .08½- —
Hypophosphorous, USP, djns..lb. .75 - .80
Lactic, edible, 50%, cbys., 20 or more..lb. .12½- —
5 to 19.....lb. .13 - —
1 to 4.....lb. .13½- —
80%, bbls., cbys., 5 or more. lb. .24½- —
1 to 4.....lb. .24¾- —
plastic grade, bbls., cbys., 20 or more..lb. .14½- —
5 to 10 cbys.....lb. .14¾- —
1 to 4 cbys.....lb. .15¼- —
tech., dark, 22%, bbls., c.l., works..100 lbs. 2.90 - —
l.c.l., works....100 lbs. 3.15 - —
cbys., works.....100 lbs. 4.15 - —
44%, bbls., c.l., works... 100 lbs. 6.30 - —
l.c.l., bbls., works.... 100 lbs. 6.55 - —
cbys., works.....100 lbs. 7.55 - —
light, 22%, bbls., c.l., works. 100 lbs. 3.90 - —
l.c.l., works....100 lbs. 4.15 - —
cbys., works.....100 lbs. 5.15 - —
44%, bbls., c.l., works.... 100 lbs. 7.30 - —
l.c.l., works....100 lbs. 7.55 - —
cbys., works....100 lbs. 8.55 - —
USP XI, 85%, cbys.....lb. .54 - .57
USP VIII, 75%, cbys.....lb. .52 - .55
Lauric, dist., tech., dms....lb. .20 Nom.
Laurent's, bbls.....lb. .45 - —
Linseed oil,[5] light, dms.....lb. .21½- .22
Maleic,[6] powd., dms.....lb. .30 - —
anhydride, dms., c.l.....lb. .25 - —
l.c.l. .....lb. .26 - —
Malic, powd., kgs.....lb. .47 - —
Mandelic, dms., 1,000 lbs....lb. 2.05 - —
smaller lots.....lb. 2.10 - 2.30
Mixed, tanks, nitric unit....lb. .05 - .06
sulphuric unit.....lb. .0085- .009
Molybdic, kgs., works.....lb. .95 - 1.10
Monochloroacetic, tech., bbls.lb. .17 - —
purified, bbls.....lb. .20 - —
Monosulphonic, bbls.....lb. 1.50 - —
Muriatic, 18°, cbys., c.l., E. works..100 lbs. 1.50 - —
l.c.l., 25 and over, E. works..100 lbs. 1.75 - —
10 to 24, works...100 lbs. 1.85 - —
1 to 9, works...100 lbs. 2.45 - —
tanks, works.....100 lbs. 1.05 - —
20°, cbys., c.l., E. works.... 100 lbs. 1.75 - —
tanks, E. works.....ton.22.00 - —
22°, cbys., c.l., E. works.... 100 lbs. 2.25 - —
tanks, E. works.....ton.32.00 - —
CP, dealer, cbys.....lb. .06½- —
6-lb. bots.....lb. .17½- —
consumers, cbys.....lb. .08 - —
6-lb. bots.....lb. .19 - —
Myristic, dist., dms.....lb. .19 - .19½
Naphthenic,[6] 220-230 acidity, dms., c.l., works..lb. .13 - .14
l.c.l., works.....lb. .13 - .15
tanks, works.....lb. .10 - .13
235-245 acidity, dms., c.l., works..lb. .15 - —
l.c.l., works.....lb. .15 - —
tanks, c.l., works.....lb. .13 - —
Acid, nicotinic,[6] dms.....kilo. 9.00 - 9.35
Nicotinic, amide (see Nicotinamide).
Nitric, 36°, cbys., c.l., E. works 100 lbs. 5.00 - —
l.c.l., 25, E. works.100 lbs. 5.25 - —
10 to 24, works...100 lbs. 5.35 - —
1 to 9, works...100 lbs. 5.95 - —
38°, cbys., c.l., E. works.... 100 lbs. 5.50 - —
Western works...100 lbs. 5.75 - —
40°, cbys., c.l., E. works.... 100 lbs. 6.00 - —
42°, cbys., c.l., E. works.... 100 lbs. 6.50 - —
CP, USP, dealers, cbys....lb. .11½- —
7-lb. bots.....lb. .21½- —
consumers, cbys.....lb. .13 - —
7-lb. bots.....lb. .23 - —
Oleic (see Oil, red).
Oleum (see Acid, sulphuric, fuming).
Oxalic,[1] bbls., c.l., works....lb. .11¼- —
10,000 lbs.....lb. .11¼- —
smaller lots.....lb. .12¼- —
Palm oil,[6] white, dist., dms.lb. .13 - .13½
tanks .....lb. .12½- —
Paraminobenzoic, cns.....lb. 1.40 - —
Paranitrobenzoic, cns.....lb. .72 - —
Paratoluidinmetasulphonic, bbls., f.o.b. works..lb. .80 - —
Phenylacetic, bots.....lb. 1.85 - 3.00
Phosphoric,[6] pure food grade, 50%, c.l., bbls., works, frt. equald..100 lbs. 4.00 - 4.25
cbys., works, frt. equald. 100 lbs. 4.35 - 4.60
l.c.l., 10 or more, works, frt. alld..100 lbs. 5.25 - 6.25
1 to 9 cbys., works, frt. alld..100 lbs. 6.25 - 7.25
tankwagon, dlvd. N. Y., Phila., Met. area.100 lbs. 4.00 - —
75%, c.l., bbls., works, frt. equald..100 lbs. 4.75 - 5.00
cbys., works, frt. equald... 100 lbs. 5.10 - 5.35
l.c.l., 10 or more, works, frt. alld..100 lbs. 7.00 - 8.50
1 to 9 cbys., works, frt. alld...100 lbs. 8.00 - 9.50
tankcars, works, frt. equald. 100 lbs. 4.00 - 4.25
tankwagons, dlvd. N. Y., Phila., Met. area.100 lbs. 4.75 - —
USP, 100-lb. cbys., c.l....lb. .10½- —
10 cbys., to c.l.....lb. .11½- —
2 to 9 cbys.....lb. .12 - —
single cbys.....lb. .13 - —
70-lb. cbys.....lb. .10½- —
25 cbys., to c.l.....lb. .11½- —
5 to 24 cbys.....lb. .12 - —
1 to 4 cbys.....lb. .13 - —
10% dilut., cbys., djns....lb. .07 - .07½
Picramic, kgs.....lb. .65 - .70
Picric, bbls.....lb. .35 - —
Propionic,[1] synth., pure, 55-gal. dms., works..lb. .19½- —
tanks, works.....lb. .18½- —
Pyrogallic, tech., bbls.....lb. 1.45 - —
cns. .....lb. 1.63 - —
USP, cryst., dms.....lb. 2.10 - 2.15
resub., dms.....lb. 2.60 - 2.65
Pyroligneous, bbls., dlvd., E.gal. .25 - —
Ricinoleic, com'l, split (see Acid, castor oil, split).
tech., dms., works.....lb. .32 - .37
Salicylic,[1] tech., bbls., c.l....lb. .26 - —
100 lbs. to c.l.....lb. .33 - —
smaller lots.....lb. .34 - .42
USP, bbls., c.l.....lb. .28 - —
100 lbs. to c.l.....lb. .35 - —
smaller lots.....lb. .36 - .44
Sebacic, tech., bbls., works..lb. .65 - .69
Soybean oil,[5] dist., dms.....lb. .17¾- .18½
Stearic,[6] double-press, bgs...lb. .15¾- .16¾
single press, bgs.....lb. .15¾- .16¾
triple press, bgs.....lb. .18¾- .19¾
Succinic, bbls.....lb. .75 - —
Sulphanilic, CP, bots., works.lb. 1.60 - 1.63
tech., dms., works.....lb. .17 - —
Sulphuric,[6] 60°, cbys., c.l., E. works..100 lbs. 1.25 - —
l.c.l., 25 up, works...100 lbs. 1.50 - —
10 to 24, works...100 lbs. 1.60 - —
1 to 9, works...100 lbs. 2.25 - —
tanks, E. works.....ton.13.00 - —
66°, cbys., c.l., E. works..... 100 lbs. 1.50 - —
tanks, E. works.....ton.16.50 - —
98°, tanks, works.....ton.17.50 - —
CP, USP, dealers, cbys....lb. .06½- —
9-lb. bots.....lb. .15¼- —
consumers, cbys.....lb. .08 - —
9-lb. bots.....lb. .17 - —
fuming, 20%, tanks, E. works. ton.19.50 - —
Tannic, tech., bbls., dms....lb. .71 - .75
USP, fluffy, bbls., 1,000 lbs.lb. 1.33 - —
smaller lots.....lb. 1.35 - 1.38
powd., bbls., 1,000 lbs....lb. 1.13 - —
smaller lots.....lb. 1.15 - —
Tartaric, USP, cryst., gran., powd., bbls., 10,000 lbs., 1 ship't..lb. .70½- —
smaller lots.....lb. .71 - —
kgs. .....lb. .71½- —
Tobias, bbls.....lb. .55 - .60
Trichloroacetic, bots.....lb. 2.00 - 2.50
Tungstic,[6] CP, 100-lb. pkgs..lb. 2.94 - 3.10
pure, 100-lb. pkgs.....lb. 2.85 - —
Aconite leaves, bls.....lb. 1.40 - 1.45
Root, bls.....lb. 1.55 - 1.60
Aconitine, amorph., bots.....oz.23.00 -28.00
15-gr. vials.....vial. 1.09 - —
cryst., bots.....oz.42.00 -48.00
15-gr. vials.....vial. 1.60 - —
Acrylonitrile,[6] dms., frt. alld..lb. .39½- —
5,000 lbs. or more, works..lb. .40 - —
1 ton to 4,999 lbs., works..lb. .40½- —
1 dm. to 1 ton, works.....lb. .41 - —
tankcars, ft. alld.....lb. .39 - —
Adeps lanae,[1,6] USP, anhyd., dms., primary distributors, lb. .34 - .35½
producers .....lb. .33 - —
hyd., dms., primary distributors..lb. 32½- .34
producers .....lb. .32 - —
Adeps lanae prices for primary distributors, f.o.b. St. Louis, 1c. higher.
Agar,[5] .....lb. 3.50 - —
San Diego, Cal.....lb. 3.00 - —
Agaric, white, bls.....lb. 3.75 - 4.00
Albumen, blood, dark (see Blood, soluble).
light, dms., Chicago.....lb. .65 - .70
Egg, edible,[1] cryst., powd., bbls..lb. 1.98 - —
tech., cryst., bbls.....lb. 1.55 - 1.65
Alcohol, amyl (see also Fusel oil, refd.), ex pentane, dms., c.l., frt. alld. E. of Miss. R..lb. .141 - —
l.c.l., frt. alld.....lb. .151 - —
tanks, frt. alld.....lb. .131 - —
Alcohol, benzyl, cns.....lb. .65 - .75
dms. .....lb. .63 - —
Butyl, normal,[1,6] ferment, Ill., Ind., prod., dms., frt. alld. E..lb. .1830- —
l.c.l., frt. alld. E....lb. .1880- —
tanks, frt. alld. E.....lb. .1730- —
other production, dms., c.l., frt. alld. E..lb. .1950- .3008
l.c.l., frt. alld. E....lb. .2000- .3058
tanks, frt. alld. E.....lb. .1850- .2908
synthetic, dms., c.l., frt. alld. E..lb. .11¾- —
l.c.l., frt. alld. E....lb. .12¼- —
tanks, frt. alld. E.....lb. .10¾- —

* Normal butyl alcohol prices West, ¼c. per lb. higher.

secondary,[6] dms., c.l., frt. paid E. of Miss..lb. .091 - —
l.c.l., same basis.....lb. .096 - —
tanks, same basis.....lb. .085½- —
tertiary, denat., dms., c.l..lb. .12½- —
l.c.l., dms.....lb. .13 - —
tanks .....lb. .11 - —
Cetyl, dom., CP, fiber ctns., 1,000 lbs..lb. 1.80 - —
smaller lots.....lb. 1.90 - 2.00
Cinnamic, bots.....lb. 3.00 - —
Denatured,[1,3,6] CD14, dms., c.l., dlvd. E..gal. .84½- —
19 dms., works, E.....gal. .56½- —
1 to 18 dms., works, E..gal. .59½- —
tanks, E., dlvd.....lb. .50 - —

Tankcar sales require written authorization by Alcohol Tax Unit.

SD1, 190 pf., bbls., c.l., E. works..gal. .62 - —
19 bbls., E. works..gal. .64 - —
1 to 18 bbls., E. works, gal. .67 - —
tanks, E. works.....gal. .60 - —
Anhydrous 3c. per gal. higher.
SD2B, bbls., c.l., wks., E.gal. .60 - —
19 bbls., works, E...gal. .62 - —
1 to 18 bbls., works, E., gal. .65 - —
tanks, E. works.....gal. .48 - —
CD23G (replaced by SD23H).
SD23H, works, c.l., bbls..gal. .61½- —
19 bbls.....gal. .63½- —
1 to 18 bbls.....gal. .66½- —
tanks, E. works.....gal. .49½- —
SD29, denatured, with acetaldehyde, bbls., c.l., E. works, gal. .62½- —
l.c.l., 19 or more, E. works..gal. .66 - —
1 to 18, E. works..gal. .69 - —
tanks, E. works.....gal. .50½- —

When any of the several SD29 denaturants is supplied by the purchaser, the prices are the same as those for SD2B, plus 1½c. per gal. denaturing charge.

Special solvent, dms., c.l., works..gal. .56½- —
19 dms. to c.l.....gal. .57½- —
1 to 18 dms.....gal. .60½- —
tanks, E. works.....gal. .51 - —

Tankcar sales require written authorization by Alcohol Tax Unit.

Diacetone,[6] acetone-free, dms., c.l., dlvd..lb. .11½- .14½
l.c.l., dlvd.....lb. .11¾- .15
tanks, dlvd.....lb. .10½- .13¾
tech., dms., c.l., dlvd.....lb. .11 - .13¼
l.c.l., dlvd.....lb. .11½- .14
tanks, dlvd.....lb. .10 - .12½
Ethyl,[6] 190 pf., dms., c.l., gal.11.94½- —
19 dms.....gal.11.98 - —
1 to 18 dms.....gal.12.01 - —
tanks .....gal.11.90 - —
absolute, dms., c.l.....gal.12.62 - —
18 dms. to c.l.....gal.12.65½- —
1 to 17 dms.....gal.12.68½- —

Grain alcohol is 10c. per gallon higher.

Ethylhexyl, dms., c.l., works..lb. .24 - —
l.c.l., same basis.....lb. .25 - —
tanks, same basis.....lb. .23 - —
Furfuryl, tech., cns., works.lb. .35 - —
dms., c.l., works.....lb. .22½- —
l.c.l., works.....lb. .25 - .35
tanks, works.....lb. .20 - —
Isoamyl (see Carbinol isobutyl).
Isobutyl,[6] refd., dms., works.lb. .0860- —
tanks, works.....lb. .0760- —
Isopropyl,[1,6] refd., 91%, dms., 5 gals., dlvd..gal. .66½- —
55 gals., c.l., dlvd...gal. .39 - —
l.c.l., dlvd.....gal. .43½- —
tanks, frt. alld.....gal. .34 - —
99%, dms., 5 gals., dlvd..gal. .65 - —
55 gals., c.l., dlvd...gal. .44 - —
l.c.l., dlvd.....gal. .47 - —
tanks, frt. alld.....gal. .37½- —
Methyl (see Methanol).
Octyl (see Alcohol, ethylhexyl).
Phenylethyl, bots., cns.....lb. 2.10 - 2.50
Polyvinyl, type A, fiber-pack, Niagara Falls..lb. .68 - .70
type B, fiber-pack, same basis, lb. .60 - .62
Propyl, normal, dms., wks..gal. .67 - .70
Tetrahydrofurfuryl, dms., c.l., Waverly, N. Y..lb. .40 - —
smaller lots, same basis..lb. .44 - .50
cns., Cedar Rapids, Ia.....lb. .55 - —
Aldehol, denat. grade, dms., tanks, works..gal. .70 - .72
Aldol, dms., works.....lb. .12 - .15
denat., grd., dms.....gal. 1.20 - —
Aletris root, bgs.....lb. No stocks
Algin, bbls., fib. dms.....lb. .79 - 1.50
Alizarin (see Red, alizarin).
Alkanet root, bgs.....lb. No stocks
Allspice,[1] Mexican, bgs.....lb. .22 - .23
Aloe, Cape, cs.....lb. .30 - .33
Curacao, kgs.....lb. .70 - .75
Socotrine, kgs.....lb. .55 - .60

Wartime Status of Materials

Applications of WPB and OPA regulations to materials listed in this section are indicated by superior figures as follows:—

[1]—Specific price ceiling
[2]—Price agreement (sellers with OPA)
[3]—General Limitation Order (L order)
[4]—General Preference Order (M order)
[5]—Conservation Order (M order)
[6]—Allocation

Aloin, bbls., dms., kgs.....lb. 5.45 - 5.54
Alphanaphthol, bbls.....lb. .52 - —
Alphanaphthylamine, bbls.....lb. .32 - —
Alphapicoline, ret. dms., works, frt. equald..lb. .23½- .28½
Alphapinene, dms., c.l., wks.gal. .75 - —
l.c.l., works.....gal. .77 - —
tanks, works.....gal. .72 - —
Alphaterpineol, dms., c.l., works, lb. .1340- —
l.c.l. .....lb. .1390- —
tanks .....lb. .1290- —
Alpha-tocopherol, amp.....gram. 1.00 - 1.10
Althea root, bls.....lb. .67 - .68
Alum, ammonia,[a] burnt, USP, bbls., kgs..lb. .16 - .18
gran., bbls., works....100 lbs. 4.00 - —
dlvd., N. Y., Phil..100 lbs. 4.00 - —
lump, bbls., works....100 lbs. 4.25 - —
dlvd., N. Y., Phil..100 lbs. 4.25 - —
powd., bbls., works....100 lbs. 4.40 - —
dlvd., N. Y., Phil..100 lbs. 4.40 - —
potash, gran., bbls., wks.100 lbs. 4.25 - —
dlvd., N. Y., Phila..100 lbs. 4.25 - —
lump., bbls., works....100 lbs. 4.50 - —
dlvd., N. Y., Phila..100 lbs. 4.50 - —
powd., bbls., works....100 lbs. 4.65 - —
dlvd., N. Y., Phila..100 lbs. 4.65 - —
Potash, chrome, bbls.....lb. .12½- .15
Soda, bbls., c.l., works..100 lbs. 3.25 - —
l.c.l., dlvd. .....100 lbs. 4.25 - 5.00
Alumina acetate, basic solut., 24%, bbls., dlvd..lb. .10½- .11
solut., 20%, bbls., dlvd...lb. .09½- .10
Chloride, anhyd.,[a] com'l. dms., c.l., works..lb. .08 - —
l.c.l., works.....lb. .09 - .12
cryst., com'l dms., c.l., works, lb. .06 - —
l.c.l., works.....lb. .06½- .06¾
solut., 32 deg., cbys., c.l., works..lb. .02¾- —
l.c.l., works.....lb. .03¼- —
Fluoride, bbls.....lb. .35 - .40
Hydrate,[a] heavy, bgs., c.l., works..lb. .0310- —
bbls., c.l., works.....lb. .0340- —
l.c.l., works.....lb. .04 - —
light, bgs., dlvd.....lb. .14½- —
bbls., dlvd.....lb. .15 - —
Hydroxide gel, USP purity, conc., 9-9½% Al_2O_3, fib. dms., works..lb. .17¾- —
contract, works.....lb. .16¾- —
14-15% Al_2O_3, fib. dms..lb. .20¾- —
contract, works.....lb. .19¾- —
dried, USP XII, fib. dms., works..lb. .78 - —
contract, works.....lb. .75 - —
powd., USP IX, bbls., dms.lb. .15 - .19
Oleate, dms., contract.....lb. .24½- —
Palmitate, precip., bbls.....lb. .25 - .26
Resinate, precip., dms.....lb. .15½- —
Stearate, precip., bbls., c.l...lb. .23 - —
l.c.l. .....lb. .24 - —
Sulphate, com'l, bxs., c.l., works, frt. equald..100 lbs. 1.15 - 1.25
l.c.l., works, frt. equald., 100 lbs. 1.40 - 1.50
bbls., c.l., works, frt. equald., 100 lbs. 1.35 - 1.45
l.c.l., works, frt. equald., 100 lbs. 1.60 - 1.70
iron-free, bgs., c.l., works...100 lbs. 2.35 - —
l.c.l., works.....100 lbs. 2.50 - —
Aluminum, 98-99%, [a],[b],[c] c.l....lb. .15 - —
l.c.l. .....lb. .16 - —
paste,[c] lining, extra fine, 200-lb. dm..lb. .56 - .60
ink, 150-lb. dm.....lb. .71 - —
standard, 200-lb. dm.....lb. .38 - —
powdered,[c] lining, extra fine, 150-lb. dm..lb. .33 - —
litho, 150-lb. dm.....lb. .57 - —
standard, 200-lb. dm.....lb. .50 - —
rubber comp., 200-lb. dm..lb. .40 - —
unpolished, stand., 250-lb. dm., lb. .36 - —
varnish, stand., 300-lb. dm.lb. .40 - —

Aluminum powder and paste prices are f.o.b. shipping point. Add 1c. per lb. for 100-lb. dm., 1¼c. for 50-lb. dm., 3c. per lb. for 10-lb. can, and 5c. to 12c. per lb. for smaller containers. Deduct 1c. per lb. for single shipment of 400 to 1,499 lbs., 2c. for 1,500 to 4,999 lbs., 3c. for 5,000 to 29,000 lbs., and 4c. for 30,000 lbs. or more. Where destination is within the continental U. S., a deduction equivalent to the lowest available common carrier transportation rate will be made from sellers' invoice on orders of 200 lbs. or over.

Ambergris gray, tins.....oz.17.00 -18.00
Aminomethylpropanol, cns., dms., works..lb. .50 - .60
Aminopyrine, dms.....lb. 4.00 - —
bots. .....lb. 4.25 - —
Ammonia,[a] anhydrous, fertilizer, cys., works, frt. equal..ton.90.00 - —
refrigeration, tanks, works.lb. .05 - —
pure, cyls. .....lb. .16 - —
Aqua, 26°, cbys..lb. .05¼- —
dms., c.l.....lb. .02¼- —
l.c.l. .....lb. .02¼- —
tanks, works (NH_3 content), lb. .04 - —
Benzoate, refined, dms., kgs., 4,000 lbs. cp. frt. alld..lb. .43 - —
smaller lots, frt. alld..lb. .44 - .47
Bicarbonate, dms.....lb. .0330- .0614
Bichromate,[a] bbls.....lb. .23 - .25
Bifluoride, bbls.....lb. .15 - .17
Borate, gran., bbls., kgs ....lb. .1080- —
powd., bbls., kgs.....lb. .1130- —
Bromide, NF, bbls.....lb. .31 - .35
dms. .....lb. .32 - .36
Carbonate, lump, dms.....lb. .09¼- .09¾
cns. .....lb. .14¼- .17¼
powdered, 1c. per lb. higher.
Chloride, tech. (see Ammoniac, salt).
USP, gran., bbls., fib. dms., kgs..lb. .13 - .15
Citrate, dibasic, bbls.....lb. .75 - —
dms. .....lb. .80 - .85
Fluoride, bbls.....lb. .18 - .20
Hydroxide (see Ammonia, aqua).
Hypophosphite, NF, dms....lb. 1.25 - 1.27
jars .....lb. 1.30 - 1.35
Iodide, NF, bots.....lb. 3.71 - —
jars .....lb. 3.66 - —
Linoleate, 50%, anhyd., bbls..lb. .12 - —
Molybdate,[a] c.p., crvst., kgs..lb. 1.26 - 1.29
fine crvst., bbls., kgs....lb. .84 - .87
purified, dms.....lb. 1.10 - 1.12
Nitrate, fertilizer grade, mixtures with limestone, 34% nitrogen, bgs., Ft. Robinson, Ontario..ton.47.65 -48.05
tech., bgs., works.....100 lbs. 4.35 - 5.50
bbls., works.....100 lbs. 4.55 - —
Oleate, dms.....lb. .14 - —
Oxalate, purif., gran., bbls., kgs..lb. .27 - .33
Perchlorate, kgs.....lb. .55 - .65
Persulphate, kgs.....lb. .23¼- .23½
Phosphate, dibasic, NF V, bbls., kgs..lb. .31 - .39
tech., bbls., c.l.....lb. .07¼- —
l.c.l. .....lb. .08 - .08½
monobasic, pure, bbls.....lb. .40 - .45
tech., bbls., c.l.....lb. .07¼- —
l.c.l. .....lb. .08 - .08½
Salicylate, NF, dms., kgs...lb. 1.15 - 1.18
Silicofluoride, bbls.....lb. .15 - .18
Stearate, anhydrous, dms....lb. .34 - —
paste, dms. .....lb. .06½- —
Sulphamate bbls., works....lb. .18 - .24
Sulphate,[a],[c] dms., bulk, inland producing ovens..ton.28.20 - —
Atlantic Coast ports...ton.29.20 - —
Sulphide, liquid, 40-45%, basis 100% dms., c.l., works..lb. .07½- —
l.c.l., dlvd.....lb. .15 - —
cake, dlvd. .....lb. .07¼- —

Ammonia sulphide, red, 45%, cbys., works..lb. .06 - —
dms., works.....lb. .09 - —
yellow, 33%, cbys., works..lb. .06 - —
dms., works.....lb. .06 - —
Sulphocyanide, CP, dms.....lb. .45 - .97½
tech., bbls. .....lb. .17 - —
Sal, gray, bbls., c.l., works... 100 lbs. 5.50 - 5.75
l.c.l., same basis..100 lbs. 6.00 - 6.70
white, gran., bbls., c.l., works, 100 lbs. 4.45 - —
l.c.l., same basis...100 lbs. 5.15 - —
Ammoniac gum (see Gum ammoniac).
Amyl acetate, ex fusel oil, tech., dms., c.l., dlvd..lb. .13 - .18
l.c.l., dlvd.....lb. .12½- .17½
tanks, dlvd.....lb. .11½- .14
ex-pentane, dms., c.l., frt. alld. E. of Miss. R..lb. .18½- —
l.c.l., same basis.....lb. .16½- —
tanks, same basis.....lb. .14½- —
Alcohol (see Alcohol, amyl).
Butyrate, dms.....lb. .75 - .90
Caproate, dms.....lb. 2.75 - —
Chloride, mixed, tech., dms., c.l., works..lb. .07 - —
l.c.l., works.....lb. .08 - —
tanks, works.....lb. .06 - —
Ether, dms., c.l., works.....lb. .09½- —
l.c.l., works.....lb. .102 - —
tanks, works.....lb. .08½- —
Nitrite, USP, bots.....lb. 1.72 - 1.80
Mercaptan, dms., works.....lb. 1.10 - —
Oleate, dms., works.....lb. .31 - —
Salicylate, bots.....lb. .85 - 1.25
Stearate, dms., works.....lb. .42 - —
Amylene, dms., c.l., works....lb. .10½- —
l.c.l., works.....lb. .11 - —
tanks, works.....lb. .09 - —
Amylnaphthalenes, mixed, crude, dms., works..lb. .14 - —
refd., dms., works.....lb. .16 - —
Anethol bots.....lb. 2.10 - 2.35
cans .....lb. 2.00 - 2.25
Angelica root, dom., bls.....lb. .70 - .86
import, natural, bls.....lb. 3.25 Nom.
Angostura bark, bls.....lb. .20 - .21
Anilin oil,[a] dms., c.l., works, frt. alld..lb. .11½- —
l.c.l., works, frt. alld....lb. .12½- —
tanks, works, frt. alld.....lb. .10½- —
Salt, dms., works.....lb. .22 - .24
Anise,[1] Cyprus, bgs.....lb. .36 - .37
Ecuador, bgs.....lb. .33 - .34
Mexican, recleaned, bgs.....lb. .27 - .28
Spanish, bgs.....lb. No stocks
Syrian, bgs.....lb. .29 - .29½
Turkish, bgs.....lb. .32 - .33
Anisic aldehyde, bots.....lb. 2.90 - 3.00
Annatto,[a] paste, bxs.....lb. .34 - .39
Seed, bgs.....lb. .08 - —
Anthracene, 80-85%, bbls., works, lb. .55 - —
90%, bbls. works.....lb. .65 - —
Anthraquinone, 99.5%, bbls....lb. .70 - —
Antimony butter (see Antimony chloride).
Chloride, solut., cbys.....lb. .17 - —
Metal,[2],[4] bulk, c.l., works..lb. .14½- —
Needle, Bolivian, brown, 67%, cs...lb. .18½- —
Chinese, black, 70%, cs....lb. .20 - .22
Oxide,[a] bgs., c.l.....lb. .15 - —
l.c.l. .....lb. .15½- —
Salt, 65%, bbls., dlvd. E. of Miss. River..lb. .40 - —
Sulphide, 65-70%, bbls., c.l., works..lb. .17 - —
l.c.l., works.....lb. .17½- —
Antipyrine, bbls., kgs., ton....lb. 2.00 - —
smaller lots.....lb. 2.10 - 2.20
Apomorphine, bots.....oz.28.20 -28.70
Apple syrup,[1] bbls.....lb. .16 - .16½
Archil extract, bbls.....lb. No stocks
Areca nuts, powd., bbls.....lb. .25 - .28
Arecolin hydrobromide, bots...oz.11.25 -11.50
Argols, min. 70%, bgs., Argentine port, 100 kilos, 100% purity.60.00 - —
Spanish port, 100 kilos, 100% purity.52.00 - —
Arnica flowers, bls.....lb. 3.25 Nom.
Root, bls.....lb. 1.00 - 1.25
Arrowroot, powd., bgs., bbls...lb. .10 - .10½
Arsenic,[a] metal, lump, c.l.....lb. No prices
Chloride (arsenous), bots....lb. 1.55 - —
Iodide (arsenous), 5-lb. bots.lb. 5.58 - —
jars .....lb. 5.42 - —
Sulphide, yellow, bbls.....lb. .52 - .55
bots. .....lb. .60 - .64
Trioxide (see Acid, arsenous).
White, powd., kgs., c.l.....lb. .04 - —
l.c.l. .....lb. .04¾- —
Asafetida, cs.....lb. .45 - .68
powd., bbls., dms.....lb. .85 - .92
Asbestine (see Talc, N. Y. fibrous).
Asbestos fiber, 5D and 5K, bgs., c.l. (20 tons), Canad. mines, ton.49.50 - —
5R, bgs., same basis.....ton.44.60 - —
6D, bgs., same basis.....ton.33.00 - —
7D, bgs., same basis.....ton.28.50 - —
7F, bgs., same basis.....ton.26.50 - —
TH, bgs., same basis.....ton.22.50 - —
TK, bgs., same basis.....ton.19.00 - —
TM, bgs., same basis.....ton.16.50 - —
TR, bgs., same basis.....ton.15.50 - —
Asphaltum, Manjak No. 10, crude, dms., works..lb. .05½- .12
process form, bgs., wks..lb. .05¾- .13
jet, bgs., 2,000 lbs., gross weight Colo. mines..ton.30.50 - —
Barbados, Dunellen, N. J....lb. .10½- —
California, dms., c.l.....ton.36.40 - —
l.c.l. .....ton.41.40 - —
Cuban A, bulk, c.l., N. Y..ton.60.00 - —
l.c.l., same basis.....ton.90.00 - —
B, bulk, c.l., N. Y.....ton.38.50 - —
l.c.l., same basis.....ton.55.00 - —
Egyptian, substitute, bgs., l.c.l., refinery, N. J. or Ill..lb. .08 - —
Gilsonite, brilliant black, selects, 340 F. fusing point, bgs., mines..ton.32.90 - —
seconds, 370-390 F. fusing point, not uniform, same basis..ton.25.50 - —
selects, 290-295 F. fusing point, same basis..ton.30.50 - —
270 F fusing point, same basis..ton.30.50 - —
seconds, 300-320 F. fusing point, not uniform, same basis..ton.25.50 - —
jet, bgs., 2,000 lbs. gross weight, Colo. mines..ton.30.50 - —
Mexican, ref'd, dms., Texas refinery..ton.21.00 - —
l.c.l., refinery.....ton.21.00 -23.00
tanks, refinery.....ton.16.00 - —
Atropine, bots.....oz.15.00 - —
Sulphate, bots.....oz. 3.10 - —

B

Balm of Gilead buds, bgs.....lb. .62 - .63
Barbasco root,[2],[4] (see Cube root).
Barberry, root bark, bgs.....lb. .79 - .80
Barbital, dms.....lb. 3.50 - 3.60
sodium, dms.....lb. 3.75 - —
Barium carbonate, natural, 99% thru 200 mesh, bgs., c.l., works..ton.43.00 - —
precip., bgs., c.l., works..ton.55.00 - —
l.c.l., works.....ton.60.00 - —
bbls., c.l., works.....ton.60.00 - —
l.c.l., works.....ton.65.00 - —
sulphur-free, paper bgs., works..ton.60.00 - —
l.c.l., works.....ton.65.00 - —

Barium chlorate,[a] kgs.....lb. .36 - —
Chloride, CP, cryst., bbls....lb. .25 - .27
pure, bbls., kgs.....lb. .10 - .12
tech., cryst., zone 1, bgs., c.l., dlvd..ton.77.00 - —
l.c.l., dlvd.....ton.90.00 - —
Zone 2, bgs., c.l., dlvd.. ton.81.00 - —
l.c.l., dlvd.....ton.94.00 - —
Zone 3, bgs., c.l., dlvd.. ton.87.00 - —
l.c.l., dlvd.....ton.100.00 - —
Zone 4, bgs., c.l., dlvd.. ton.100.00 - —
l.c.l., dlvd.....ton.113.00 - —

Barium chloride, tech., in bbls., $2 per ton higher. Sales zones are:—1, Ill., Ind., Ky., Mich., Md., Ohio, New England States, N. J., N. Y. Pa., Va., Wis., and principal cities of W. bank Miss. R., N. of Miss., No. of Ark. line; 2, Ala., Fla., Ga., Miss., N. C., S. C., Tenn.; 3, Ariz., Colo., Idaho, Ia., Minn., Mo., N. Mex., Utah; 4, Calif., Nev., Ore., Wash.

Dioxide, dms., c.l., works....lb. .10 - —
l.c.l., works.....lb. .12 - .13
Fluoride, bbls.....lb. .18 Nom.
Hydrate (see Hydroxide).
Hydroxide, bbls., works.....lb. .06 - .07
Iodide, bots.....lb. 4.62 - 4.82
Monoxide (see Oxide).
Nitrate, cks.....lb. .11 - .12
Oxide, dms., c.l., works.....lb. .08 - —
l.c.l., same basis.....lb. .10 - .12
grd., dms., l.c.l., works..lb. .11 - .15
Peroxide (see Dioxide).
Silicofluoride, bbls.....lb. .17- .19
Stearate, ctns., 1 ton up.....lb. .31 - —
smaller lots.....lb. .32 - —
Sulphate, tech. (see Barytes, and Blanc fixe).
X-ray, bbls.....lb. .09½- .10
kgs. .....lb. .12 - —
Barytes, floated, bbls., c.l., St. Louis..ton.27.65 - —
l.c.l., same basis.....ton.28.65 - —
ex whse., N. Y.....ton.36.00 - —
paper bags, c.l., St. Louis.... ton.25.35 - —
l.c.l., same basis.....ton.26.35 - —
ex whse., N. Y.....ton.34.00 - —
Southern, off-color, bgs., mines, ton.17.50 - —
95.75%, bgs., mines.....ton.18.00 - —
Ore, bulk, mines.....ton. 8.00 - —
Bauxite,[a] bulk, mines.....ton. 7.00 -10.00
Bay leaves (see Laurel leaves).
Bayberry bark, bgs.....lb. .12 - .13
Belladonna leaves, bls.....lb. 1.20 - 1.25
Root, bls.....lb. .90 - 1.00
Bentonite, 200 mesh, bgs., works.. ton.11.00 - —
325 mesh, bgs., works.....ton.16.00 - —
Benzaldehyde, N.F., dms.....lb. .85 - .95
tech., cbys., dms.....lb. .45 - .55
Benzene (see Benzol).
Benzidin base, bbls.....lb. .70 - —
Benzocaine, cns.....lb. 3.20 - 3.55
Benzol,[a] (benzene), pure, nitration and 90%, dms., works, gal. .20 - —
tankcars, E. of Omaha, frt. alld. up to 2c. per gal..gal. .15 - —
W. Coast, f.o.b. Minnequa, Colo..gal. .15 - —
Benzophenone, dms.....lb. 1.15 - 1.20
Benzoyl chloride, cbys.....lb. .22 - .24
Peroxide, pure, gran., fib. ctns., works..lb. 1.95 - —
Benzyl acetate, f.f.c., cns.....lb. .59 Nom.
dms. .....lb. .55 Nom.
Alcohol (see Alcohol, benzyl).
Benzoate, a...m.s, f.f.c., dms.lb. 1.00 - 1.10
Chloride, cbys., frt. equald..lb. .22 - .24
Cinnamate, cns.....lb. 5.15 - 5.50
Formate, cns.....lb. 3.00 - 3.50
Isoeugenol, bots.....lb. 9.50 - —
Propionate, bots.....lb. 2.75 - 3.00
Salicylate, bots.....lb. 1.90 2.15
Benzylidinacetone, bots.....lb. 2.25 - 2.50
Berberine bisulphate, cns.....lb.22.70 -23.50
Hydrochloride, cns.....lb.22.50 -23.50
Sulphate, cns.....lb.22.50 -23.50
Berberis root, bls.....lb. .13 - .14
Betanaphthol, resublimed, dms., works..lb. .55 - .60
tech., bbls., c.l., works.....lb. .23 - —
l.c.l., works.....lb. .24 - —
Benzoate, fib. dms., works...lb. 1.75 - —
Salicylate, dms. .....lb. 5.00 - —
Betanaphthylamine, tech., works, lb. .51 - —
Betapicoline, 95%, ret. dms., works..lb. 2.05 - 2.35
Beth root, bls.....lb. .33 - .35
Bismuth[a] chloride, bots.....lb. 3.00 - —
jars .....lb. 2.85 - —
Citrate, USP VIII, bots.....lb. 2.81 - 2.86
jars .....lb. 2.75 - —
Hydroxide, bots.....lb. 3.41 - 3.46
cns. .....lb. 3.35 - —
Metal, ton lots.....lb. 1.25 - —
Nitrate, cryst., bots.....lb. 1.41 - 1.46
cns. .....lb. 1.30 - —
Oxychloride, bots.....lb. 3.14 - 3.19
cns., kgs.....lb. 3.10 - —
Subbenzoate, bots.....lb. 3.51 - —
fib. dms.....lb. 3.40 - —
Subcarbonate, USP, bbls., dms. lb. 1.50 - 1.53
bots., cns.....lb. 1.59 - 1.63
X-ray, 5-lb. bots.....lb. 2.79 - —
fib. dms.....lb. 2.73 - —
Subgallate, NF, bots., cns....lb. 1.40 - 1.53
fib. dms.....lb. 1.40 - 1.43
Sublodide, bots.....lb. 4.19 - 4.25
fib. dms.....lb. 4.13 - —
Subnitrate, USP, powd., bbls... lb. 1.20 - 1.33
bots. .....lb. 1.29 - 1.33
Subsalicylate, USP, 82-86%, bbls., fib. dms..lb. 2.50 - —
bots., cns.....lb. 2.51 - 2.59
Sulphocarbolate, bots.....lb. 3.71 - 3.76
fib. dms.....lb. 3.65 - —
Trioxide, powd., bots.....lb. 3.71 - 3.76
cns. .....lb. 3.65 - —
Bismuth-ammonia, citrate, USP, powd., dms...lb. 3.40 -
cns. .....lb. 3.45 - 3.50
Black, acetylene,[2] bgs., c.l., works..lb. .14 - —
Bone, 1A, bgs., bbls., c.l., frt. alld. East..lb. .17 - —
2, bgs., bbls., c.l., same basis, lb. .12 - —
3, bgs., bbls., c.l., same basis, lb. .11 - —
4, bgs., bbls., c.l., same basis, lb. .09½- —
400A, bgs., bbls., c.l., same basis..lb. .08½- —
457, bgs., bbls., c.l., same basis..lb. .11½- —

Bone black l.c.l. prices are ½c. higher than c.l. Pacific coast prices are 1½c. higher, ex dock or whse.

Carbon,[a] heads, comp., bgs., c.l., works..lb. .03550- —
bgs., ctns., l.c.l., dlvd. or whse..lb. .07½- —
regular uncompressed, bgs., c.l., works..lb. .03625- —
bgs., ctns., l.c.l., dlvd., or whse..lb. .08 - —
Charcoal (see C).
Graphite (see G).
Iron oxide, magnetic, pure, bbls., l.c.l., works..lb. .08½- —

Black, lamp, 1, ctns., c.l., works, lb. .08½- —
l.c.l., works.....lb. .09 - —
2, ctns., c.l., works.....lb. .10 - —
l.c.l., works.....lb. .11 - —
2A, ctns., c.l., works.....lb. .12 - —
l.c.l., works.....lb. .13½- —
3, ctns., c.l., works.....lb. .14½- —
l.c.l., works.....lb. .15½- —
4, ctns., c.l., works.....lb. .16½- —
l.c.l., works.....lb. .17½- —
5, ctns., c.l., works.....lb. .20 - —
l.c.l., works.....lb. .26 - —
6, ctns., c.l., works.....lb. .26½- —
l.c.l., works.....lb. .27½- —
7, ctns., c.l., works.....lb. .27½- —
l.c.l., works.....lb. .28½- —
Mineral, vine type, bbls., l.c.l., works..lb. .04¾- —
Vine, A, bbls.....lb. .04½- .05
B, bbls.....lb. .05¾- —
kegs .....lb. .06 - —

Black dyes listed under Dyes.
Black haw root bark, bls.....lb. .40 - .45
Tree bark, bls.....lb. .26 - .27
Black Indian hemp root, bls...lb. .20 - .26
Blanc fixe, dry, by-product, bgs., c.l., works..ton.60.00 —
l.c.l., works.....ton.67.50 - —
direct process, bgs., c.l., works, ton.70.00 - —
l.c.l., works.....ton.75.00 - —
bbls., c.l., works.....ton.75.00 - —
l.c.l., works.....ton.80.00 - —
pulp, 66%%, bbls., c.l., wks.... ton.40.00- —
l.c.l., same basis.....tan.46.50 - —
Bleaching powder,[3],[6] dms., c.l., works..100 lbs. 2.50 - 3.10
l.c.l., works.....100 lbs. 2.75 - 3.60
Blood, dried, 16-16½% ammon., bgs..unit-ton. 5.53 - —
high-grade, unground, 16-17% ammon., bulk, Chicago, unit-ton. 5.53 - —
soluble, bgs., c.l., Chicago...lb. .13½- —
smaller lots, Chicago.....lb. .15 - .20
Bloodroot, bls.....lb. No stocks
Blue,[1] alkali, dry, bbls., dlvd. N. of Tenn. and N. C. E. of Miss. River including St. Paul, Minneapolis, Davenport, Rock Island, St. Louis, lb. 1.75 - —
toner, bbls., same basis..lb. .85 - .90
Celestial, bbls., same basis..lb. .10 - .12
Cobalt,[a] genuine, bbls., same basis..lb. 4.90 - —
Imitation (see Blue, ultramarine).
Copper phthalocyanin, full strength, bbls., same basis.. lb. 3.50 - 3.75
80%, bbls., same basis..lb. 3.30 - —
green shade, bbls., same basis..lb. 4.50 4.75
Iron, Chinese, bbls., same basis, lb. .36 - —
Milori, bbls., same basis..lb. .38 - —
Prussian, bbls., same basis, lb. .36 - —
Soluble, bbls., same basis6 lb. .36 -
Molybdated, Victoria, same basis..lb. 3.15 - —
Peacock, fugitive, 100% color strength, same basis..lb. .32 - —
permanent, toner, green shade, tungstic..lb. 4.00 - —
molybdic .....lb. 3.50 - —
Potash, C.P., bbls., same basis, lb. .42 - —
Soda, C.P., bronze, bbls., same basis..lb. .36 -
Ultramarine, dry or pulp, cobalt grades, bbls., same basis.lb. .23 - .27
job, grades, bbls., same basis, lb. .12 - .13
reg., grades, bbls., same basis, lb. .17 - .27
Victoria, toner,[1] tungstic, bbls., lb. 3.80 - —
molybdic, bbls..lb. 3.15 —
ink toner, bbls., same basis, lb. 1.85 - —
syn. vehicle, bbls., same basis..lb. 1.93 - —
Violet toner, molybdic, kgs., same basis..lb. 1.25 - —
tungstic, kgs., same basis, lb. 2.10 - —

Blue dry colors, dlvd. prices, ½c. higher Ala., Fla., Ga., La. (Shreveport, 1¼c.); Miss., N. C., S. C., Tenn., Tex. (El Paso, 2c.); Cedar Rapids, Des Moines, Kansas City, Lincoln, Omaha, St. Joseph: 1.6c. higher, Pac. Coast; Denver, Pueblo, Salt Lake City, Wichita, frt. equalized with Chicago.

Blue dyes are listed under Dyes.
Blueflag root, bls.....lb. .20 - .30
Blue mass, USP, cns., tcbs.....lb. 1.67 - 1.84
powd., bots., cns., dms.....lb. 1.70 - 1.84
Bluestone (see Copper sulphate).
Blue vitriol (see Copper sulphate).
Bone, raw, bulk, Chicago....ton.57.50 -60.00
junk, bulk, same basis....ton.31.00 - —
Meal, 4½% ammon., 50% phos., bgs., E. works..ton.37.50 - —
Chicago, works.....ton.39.50 - —
steamed, feeding grade, 1% ammon., 60% phos., bgs., E. works..ton.47.00 - —
Chicago works.....ton.51.00 - —
fertilizer grade, 3% ammon., 50% phos., bgs., E. wks.ton.38.50 - —
Chicago works.....ton.37.00 - —

Precipitated (see Calcium phosphate tribasic, precip.).
Phosphate, defluorinated (see under D).

Boneset leaves, bls.....lb. .12 - .13
Borage flowers, bls.....lb. .70 - .95
Borax,[a] tech., 99%%, gran., bulk, c.l., frt. alld..ton.41.50 - —
bgs., c.l., frt. alld....ton.45.00 - —
ton lots, ex whse....ton.36.00 - —
less ton lots, ex whse.ton.61.00 - —
bbls., c.l., frt. alld...ton.35.00 - —
ton lots, ex whse....ton.66.00 - —
less ton lots, ex whse.ton.71.00 - —
powd., bgs., frt. alld....ton.50.00 - —
ton lots, ex whse....ton.61.00 - —
less ton lots, ex whse.ton.66.00 - —
bbls., c.l., frt. alld....ton.60.00 - —
ton lots, ex whse....ton.71.00 - —
less ton lots, ex whse.ton.66.00 - —

USP, $15 per ton higher.

Bordeaux mixt., dms., c.l., whse., works, frt. alld..lb. .11 - —
l.c.l., same basis.....lb. .11½- —
Bornyl thiocyanoacetate, cbys. or dms. extra works.....gal. 4.95 - —
Brasilwood extract (see Hypernic).
Brimstone (see Sulphur).
Bromine, purif., cs., 1,000 lbs., frt. alld. E. of Rockies..lb. .25 - .30
single pkgs., same basis..lb. .30 - .35
Bromoform, USP.....bots. 1.50 - —
Bromstyrol .....lb. 4.50 - 5.00
Bronze powder, aluminum (see A).
gold, litho., cns., dms., works, lb. .60 - .65
moulding, cns., dms., same basis..lb. .80 - 1.00
printing ink, cns., dms., same basis..lb. .85 - 1.20
radiator, cns., dms., same basis..lb. .45 - .50
Broomtop, bls.....lb. .10 - .12

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Brown,[3] iron-oxide, pure, precip., cks., works..lb. .12 - —
metallic, bbls., c.l., works. lb. .02½- —
Sap, crystals, works.....lb. .12 - —
powdered .....lb. .14 - —
Sienna, burnt, American, bbls., works..lb. .03¾- .05
pap. bgs., c.l., same basis. lb. .0235- —
Italian type, bbls., works. lb. .03¾- .16¾
raw, American, bbls., works, lb. .04 - .10
Italian type, bbls., wks.. lb. .08 - .10
Umber, Amer., bbls., works.lb. .03¾- —
Italian type, bbls., works. lb. .04¾- —
Turkey type, bbls., l.c.l., f.o.b. Boston, Bethlehem, Easton, Pa., N. Y..lb. .04¾- —
St. Louis, Chicago, Indianapolis, New Orleans. lb. .05¼- —
Kansas City.....lb. .05¾- —
Minneapolis .....lb. .0535- —
Pittsburgh .....lb. .05 - —
ex car, Los Angeles....lb. .05¾- —
Portland, San Francisco, Seattle..lb. .05½- —
ex whse., Los Angeles..lb. .05¾- —
Portland, San Francisco, Seattle..lb. .05¾- —
Vandyke, reg., bbls., works.. lb. .09 - —
special, bbls., same basis..lb. .12 - —
Brucine, 100 oz. cns.....oz. .35 - —
sulphate, 100 oz. cns.....oz. .30 - —
Bryonia root, bls.....lb. .85 - .90
Buchu leaves, bls.....lb. .80 - .85
Buckthorn bark, bls.....lb. .82 - .84
Berries, bgs.....lb. .70 - .75
Burdock root, bls.....lb. .32 - .33
Burgundy pitch, dms.....lb. .06 - —
Butane,[2] indust., tanks, Group 3. gal. .08½- —
Butternut bark, bls.....lb. .08 - .09
Butyl acetate, normal, [1,6] ferment, Ill., Ind., prod., dms., c.l., frt. alld. E. of Miss. R..lb. .1790- —
l.c.l., frt. same basis, lb. .1840- —
tanks, same basis....lb. .1690- —
other production, dms., c.l., same basis..lb. .1870- .2765
l.c.l., same basis...lb. .1920- .2815
tanks, same basis....lb. .1800- .2668
synthetic, dms., c.l., same basis..lb. .11¾- —
l.c.l., same basis.....lb. .12¼- —
tanks, same basis.....lb. .10¾- —

Normal butyl acetate W. of Miss. R. ½c. per lb. higher.

secondary,[1,6] dms., c.l., dlvd. E. of Miss. R..lb. .09½- —
l.c.l., same basis .....lb. .10 - —
tanks, same basis.....lb. .08½- —
Alcohol (see Alcohol, butyl)
Aldehyde, dms., c.l., works..lb. .15½- —
l.c.l., works.....lb. .16½- —
tanks, works.....lb. .14½- —
Carbinol, secondary, l.c.l., dms., works..lb. .60 - —
Chloride, normal, dms., c.l., works..lb. .32 - —
l.c.l., works.....lb. .35 - —
Ether (see Ether, butyl).
Lactate, dms.....lb. .20½- —
Laurate, dms., works.....lb. .42 - —
Myristate, dms., works.....lb. .41 - —
Oleate, ref'd, dms., works...lb. .35 - —
tech., dms., works.....lb. .29 - —
Butyl phenylacetate, dms.....lb. 2.00 - 2.25
Phthalate (see Dibutyl Phthalate)
Propionate, dms., dlvd.....lb. .16½- .17
tanks .....lb. .15½- —
Stearate, dms.....lb. .31 - .31½
Butyric ether, bots.....gal. 6.50 - 6.95
cans, works.....lb. .65 - .70
dms., works.....lb. .60 - —

C

Cadmium bromide,[6] jars.....lb. 1.65 - 1.70
bots. .....lb. 1.84 - 1.91
Iodide,[6] bots.....lb. 4.23 - —
cans .....lb. 4.69 - —
Lithopone (see Yellow)
Metal,[1,6] pat. shapes, cs., dlvd., lb. .95 - —
Ingots or sticks.....lb. .90 - —
Red (see Red).
Selenide (see Red).
Sulphide (see Yellow).
Caffeine,[1] dms., makers, primary distrib., 100 lbs. or more..lb. 2.80 - 2.88
25 to 100 lbs.....lb. 2.95 - 3.10
smaller lots.....lb. 3.15 - 3.25
anhydrous, dms., 100 lbs. or more..lb. 3.00 - 3.08
25 to 100 lbs.....lb. 3.15 - 3.30
smaller lots.....lb. 3.35 - 3.45
Citrated,[1] dms., makers, primary distrib., 100 lbs., or more..lb. 1.95 - —
smaller lots.....lb. 2.05 - 2.30
Hydrobromide, bots.....lb. 5.29 - 5.87
Calabar beans, bgs.....lb. .35 - .40
Calamus root, dom., bls.....lb. .30 - .45
Calcium acetate, bgs., dlvd.... 100 lbs. 3.00 - 4.00
Arsenate,[6] bgs., c.l., whse., works, frt. alld..lb. .07 - .08
l.c.l., same basis.....lb. .07½- .08¼
Calcium bromide, jars.....lb. .65 - .70
Carbide,[6] dms., c.l., dlvd..... 100 lbs. 4.75 - —
l.c.l., f.o.b. whse....100 lbs. 4.85 - —
Carbonate (see Chalk and Whiting).
Chloride, flake, 77-80%, paper bgs., c.l., dlvd..ton.18.50 -35.00
l.c.l., 15 tons, dlvd...ton.21.50 -25.50
5-ton lots.....ton.28.50 -41.00
liquor, basis 40%, tanks, whs. ton. 7.50 - —
purified, cryst., bbls., jars.lb. .28 - .29
solid, 73-75%, dms., c.l., dlvd. ton.18.00 -31.50
l.c.l., 15 tons, dlvd...ton 21.45 -25.45
5-ton lots.....ton.28.45 -40.95

Calcium chloride prices vary according to zone; min. prices, spot. C.l. prices for flake in burlap paper-lined bags, $2.50 per ton over paper bags, drums $3.50 ar ton over paper bags.

Gluconate, USP, gran., bbls..lb. .52 - —
dms. .....lb. .57 - .58
cns. .....lb. .70 - —
Powd., 2c. per lb. lower.
Glycerophosphate, fib. dms., 1,000-lb. lots..lb. 1.28 - —
100-lb. lots.....lb. 1.40 - —
cns., 25 lbs.....lb. 1.65 - —
Hypophosphite, cns.....lb. .62 - .65
Iodide, bots., jars.....lb. 4.04 - 4.19
Lactate, USP, bbls.....lb. .35 - .37
Mandelate, dense, dm.....lb. 2.05 - 2.50
fluffy, dms.....lb. 2.05 - 2.30
Palmitate, bbls.....lb. .28 - .29
Pantothenate, dex., 100-gram bots..per gram. .25 - —
Phosphate, feeding grade, bgs., works..ton.75.00 - —
food grade, 10 bbls. or over, works..lb. .07 - .07¾
5 to 9 obls., works.....lb. .08 - .09
1 to 4 bbls., works.....lb. .10 - —
medicinal, bbls.....lb. .11½- .12
dms. .....lb. .12½- .18
monobasic, cryst., bgs., c.l., works, frt. equald..lb. .05¾- —
l.c.l., frt. equald.....lb. .06 - .06¼
tribasic, bbls., c.l., works..lb. .0635- —
Resinate, precip., bbls.....lb. .15 - .16
Silicate, hydrated, 50-lb. paper bags, c.l., works..lb. .06¼- —
l.c.l., works.....lb. .06 - —
Stearate, precip., bbls., c.l., works..lb. .25 - —
l.c.l., same basis.....lb. .26 - .28
Sulphate (see Gypsum).
Sulphide, 70%, bgs., c.l., works. ton.45.00 - —
80%, bgs., c.l., works.....ton.50.00 - —
luminous, tins, works..100 lbs. No stocks
Sulphocarbolate, bbls.....lb. .49 - —
Calcium-strontium-sulphide, phosphorent, dms., works, frt. alld..lb. 1.50 - 1.75
Calendula flowers, bls.....lb. 3.25 - 3.50
Calomel,[6] bbls., dms.....lb. 2.95 - 2.96
bots. .....lb. 3.09 - 3.12
Camphor, natural.....lb. No stocks
synth., tech., bbls., contract, 2,000 lbs. or more, works. lb. .41 - —
10 bbls. (1,500 lbs.).....lb. .43½- —
5 to 9 bbls.....lb. .44 - —
1 to 4 bbls.....lb. .45 - —
smaller lots.....lb. .47 - .54
USP gran., powd., bbls., 2,000-lb. lots..lb. .66 - —
1,000-lb. lots.....lb. .69 - —
smaller lots.....lb. .70 - —
tablets, 2,000-lb. lots....lb. .81 - —
1,000-lb. lots.....lb. .82 - —
smaller lots.....lb. .83 - —
Monobromate, dms.....lb. 3.10 - 3.25
Canada balsam (see Fir balsam).
Canary seed,[1] Argentine, bgs..lb. No stocks
Canella alba bark, bls.....lb. .29 - .30
Cantharides, Chinese, cs.....lb. 2.25 - 2.30
powd., bxs.....lb. 2.45 - 2.50
Russian, cs.....lb. 6.00 - 6.25
powd., bxs.....lb. 6.25 - 6.50
Capsicum (see Pepper, red).
Caraway seed,[1] Dutch, bgs....lb. 1.10 - 1.15
Morocco, dewhiskered, bgs...lb. .75 - .76
Spanish, dewhiskered, bgs...lb. .64 - .66
Syrian, dewhiskered, bgs....lb. .52 - .53
natural, bgs.....lb. .44 - .45
Catnip, bls.....lb. .25 - .30
Carbazole, 90%, dms., ton lots. works..lb. .70 - —
smaller lots, works.....lb. .80 - —
98%, dms., ton lots, works...lb. .75 - —
smaller lots, works.....lb. .85 - —
Carbinol, butyl, norm. (see Amyl alcohol, normal).
Diethyl, l.c.l., works.....lb. .60 - —
Dimethylethyl, l.c.l., works..lb. .60 - —
Isobutyl, dms., c.l., works...lb. .225 - —
l.c.l., works.....lb. .235 - —
tanks, works.....lb. .215 - —
Carbon bisulphide, 55-gal. dms., c.l., frt. alld. E. of Miss. R., N. of Ohio R..lb. .05 - —
l.c.l., same basis.....lb. .05¾- —
5-gal. dms., c.l., same basis.. lb. .07 - .07½
l.c.l., same basis.....lb. .08 - .08¼
Dioxide, cyls.....lb. .06 - .08
Tetrachloride,[1,2] Zone 1, 52½-gal. dms., c.l., frt. alld..gal. .73 - —
l.c.l., frt. alld.....gal. .80 - —
5 or 10-gal. dms., c.l., frt. alld..gal. .97 - —
l.c.l., frt. alld.....gal. 1.07 - —
Zone 2, 52½-gal. dms., c.l., frt. alld..gal. .80 - —
l.c.l., frt. alld.....gal. .87 - —
5 or 10-gal. dms., c.l., frt. alld..gal. 1.04 - —
l.c.l., frt. alld.....gal. 1.14 - —
Zone 3, 52½-gal. dms., c.l., frt. alld..gal. .94 - —
l.c.l., frt. alld.....gal. 1.00 - —
5 or 10-gal. dms., c.l., frt. alld..gal. 1.17 - —
l.c.l., frt. alld.....gal. 1.27 - —
Zone 4, 52½-gal. dms., c.l..gal. .83 - —
l.c.l. .....gal. .90 - —
5 or 10-gal. dms., c.l.gal. 1.07 - —
l.c.l. .....gal. 1.17 - —

Carbon tetrachloride prices are frt. alld. with the exception of Zone 4, where prices are f.o.b. cars, L. A., Cal.; S. F., Cal.; Portland, Ore., and Seattle, Wash. Sales zones are:—1, Conn., Del., Ill., Ind., Ia., Me., Mass., Md., Mich., Minn., Mo., N. H., N. J., N. Y., N. C., O., Pa., R. I., Tenn., Va., W. Va., Wis., and river cities of Burlington, Ia., and Kansas City, Kans.; 2, Ala., Ark., Fla., Ga., Kans., La., Miss., Neb., N. D., Okla., S. C., S. D.; 3, Colo., N. Mex., Tex., and Montana points E. of Billings; 4, Ariz., Cal., Idaho, Nev., Ore., Utah, Wash. and Montana points W. of Billings.

Cardamom,[1] bleached, cs.....lb. 1.65 - 1.70
decorticated, cs.....lb. 1.50 - 1.60
green, Aleppey, bgs.....lb. 1.08 - 1.10
Ceylon, cs.....lb. 1.00 - 1.06
Caramel coloring, bbls.....gal. .70 - 1.10
Carvol, bots.....lb. 22.50 -23.00
Cascara sagrada bark, bulk....lb. .29 - .32
Case hardening mixture, 50% gran., dms., l.c.l..lb. .09¾- —
slabs, dms., l.c.l.....lb. .08¾- —
Casein,[1] domestic, acid-precip., bgs., 100 bgs. or more, ship't point..lb. .24 - —
20 to 99 bgs., same basis..lb. .24¼- —
less than 20 bgs., same basis..lb. .24¾- —

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BICARBONATE OF SODA • CALCIUM CARBONATE
AROMATIC INTERMEDIATES • HYDROGEN

MICHIGAN ALKALI DIVISION • Wyandotte, Michigan

Casein, rennet-precip., bgs., 100 bgs. or more, same basis	lb.	.25½	—
20 to 99 bgs., same basis	lb.	.25¾	—
less than 20 bgs., same basis	lb.	.26¼	—
imported, bgs., 100 lbs. or more, f.o.b. source	lb.	.10¼	.10½
Cassia,[1] Batavia, No. 1, thin quill bls.	lb.	.60	Nom.
regular, bls.	lb.	.58	Nom.
shortstick	lb.	.53	Nom.
broken	lb.	.51	Nom.
Chips, bls.	lb.	.60	Nom.
rolls, select, bls.	lb.	.53	Nom.
broken, bls.	lb.	.52	Nom.
Saigon, all medium, bls.	lb.	.61	Nom.
all thin, bls.	lb.	.62	Nom.
Cassia, fistula, bskts.	lb.	.24	- .28
Castor beans, f.o.b. Brazilian ports	long ton.	75.00	- —
Oil (see Oil, castor).			
Pomace,[1] guaranteed 5½% ammon. bgs., c.l., works	unit-ton.	2.90	- —
Castoreum, nat., cns.	lb.	12.50	-13.00
synth., bots.	lb.	19.00	- —
Catechol, resublimed, frt. alld. E. of Miss., dms.	lb.	3.50	- —
Celery seed,[1] Indian, bgs.	lb.	.26½	- .27
French	lb.	1.60	- 1.70
Celluloid scrap (see Pyroxylin scrap).			
Cellulose acetate,[4,6] flake, ctns., works, frt. alld.	lb.	.30	- —
granules, ctns., same basis	lb.	.35	- —
Triacetate,[4,6] flake, ctns., works, frt. alld.	lb.	.30	- —
Cerium hydrate, dms., works	lb.	.60	- —
Oxalate, USP, bbls., works	lb.	.35	- —
kgs., works	lb.	.37	- —
Oxide, optical grade, kgs., 100-lb. lots, works	lb.	1.50	- —
smaller lots, kgs., same basis.	lb.	2.00	- —
Chalk, precipitated, cosmetics, dentifrices, and drugs, bgs., c.l., works	lb.	.02⅜	- —
paint and other industries, bgs., c.l., works	ton.	40.00	- —
papermakers, bgs., c.l., works.	ton.	32.50	- —
rubbermakers, bgs., c.l., works.	ton.	30.00	- —
Chamomile, Hungary type, cs.	lb.	.60	- .65
Roman, bls.	lb.	3.25	Nom.
Charcoal,[1,6] pinewood, bulk, c.l., shipping points	ton.	15.00	- —
softwood, gran., bgs., c.l., dlvd. Ala., Del., Ga., Ky., Md., Miss., N. J., N. Y., N. C., S. C., Tenn., W. Va.	ton.	35.40	- —
Conn., Me., Mass., N. H., R. I., Vt.	ton.	35.80	- —
Ill., Ind., Iowa, Mich., Minn., Mo., Neb., O., Wis.	ton.	32.50	- —
Penn.	ton.	34.80	- —
Willow, powd., bbls.	lb.	.06	- .07
Chestnut Extract,[1,6] clarif., 25% tan., bbls., c.l., works	lb.	.0285	- —
tanks, works	lb.	.0226	- —
powdered, 65% tan.	lb.	.065	- —
Chillies (see Pepper, red).			
China clay, dom., dry-grd., air-float, 99.75%, 300 mesh, bgs., c.l., works	ton.	9.50	- —
l.c.l., works	ton.	16.00	- —
bulk, c.l., works	ton.	7.00	- —
200 mesh, bgs., c.l., wks.	ton.	8.50	- —
l.c.l., works	ton.	9.50	-15.88
wet grd., silkbolt, 99.9%, 325 mesh, bulk, c.l., works.	ton.	9.50	—
paper bgs., c.l., works.	ton.	12.50	- —
Import, white, lump, bulk, c.l., ex dock Balto., Boston, Norfolk, Phila.	ton.	19.00	-24.00
powd., cks., l.c.l., ex whse.	ton.	41.00	-
Chloral hydrate, jars	lb.	.93	- 96
dms	lb.	.90	- .95
Chlorinated rubber,[6] standard, ctns., 100 lbs. up, works	lb.	.32	- —
smaller lots, works	lb.	.35	- —
Chlorine,[3,6] liquid, cyls., c.l.	lb.	.05¼	- —
contracts	lb.	.05¼	- —
l.c.l.	lb.	.07¼	- —
tanks, single units works, frt. equald.	100 lbs.	1.75	- —
multiple units, 3 or over, works, frt. equald.	100 lbs.	2.00	- —
2, works, frt. equald.	100 lbs.	2.50	- —
1, works, frt. equald.	100 lbs.	3.00	- —
Chloroform, tech., dms.	lb.	.20	- .23
USP, dms.	lb.	.30	- .35
Chlorpicrin, com'l, 180-lb. cyls., frt. alld.	lb.	.80	- —
100-lb. cyls., frt. alld.	lb.	.82	- —
25-lb. cyls., ex-whse.	lb.	1.00	- —
1-lb. bots., ex-whse.	lb.	1.25	- —
Chrome acetate, powd., 24%, bbls.	lb.	.22	- —
solut., 8%, bbls., cs.	lb.	.07¼	- —
7½%, bbls., cs.	lb.	.06¼	- —
Cake, bulk, c.l., works	ton.	16.00	- —
Ore,[1] residue, paper bgs., c.l., works.	ton.	15.00	- —
Oxide (see Green, chrome).			
Trioxide (see Acid, chromic).			
Yellow (see Yellow, chrome).			
Chrysarobin, bot.	lb.	6.03	- 6.09
Cinchona bark,[3] red, quill, USP, 10 in., cs.	lb.	1.20	Nom.
broken, bgs.	lb.	.19	Nom.
yellow, quill, bgs.	lb.	.19	Nom.
Cinchonidine,[3] small, cryst., cns., 100	oz.	.89	+ .13¼*
Sulphate, NF, cns., 100 ozs.	oz.	.89	+ .13¼*

* Surcharge to cover present war-risk insurance, higher ocean freight rates and additional expenses over the cost of usual business. Changes in these controlling factors will be reflected in the surcharge invoiced.

Cinchonine,[3] small, cryst., cns., 100 ozs.	oz.	.62	+ .13¼*
large cryst., cns., 100 ozs.	oz.	.66	+ .13¼*
Sulphate, NF, cns., 100 ozs.	oz.	.42	+ .13¼*

* Surcharge to cover present war-risk insurance, higher ocean freight rates and other expenses over the cost of natural business. Changes in these controlling factors will be reflected in the surcharge invoiced.

Cinchophen, USP, bots.	lb.	3.70	- 3.80
dms.	lb.	3.50	- 3.60
Heavy density cinchophen 20c. per lb. higher.			
Cinnamic alcohol (see Alcohol, cinnamic).			
Aldehyde, cns., dms.	lb.	2.00	- 3.90
Cinnamon,[1] Ceylon, 2, bls.	lb.	.62½	Nom.
chips, bgs.	lb.	.56	Nom.
Citral, bots., cns.	lb.	2.85	- 4.75
Citrine ointment,[2] cns., dms., jars.	lb.	.98	- 1.20
Citronellal, bots., dms.	lb.	2.75	- 3.25
Citronellol, bots., dms.	lb.	6.00	- 7.00
Clove,[1] Zanzibar	lb.	.21¾	- .22¼
Clover tops, red, bgs.	lb.	.27	- .28
Coaltar, coal-gas, crude, bbls., l.c.l., works	bbl.	8.75	- —
c.l., works.	bbl.	8.25	- —
tanks, works	gal.	.07¼	- —
refd., bbls., c.l., works.	bbl.	8.75	- —
l.c.l., works	bbl.	9.25	- —
tanks, works	gal.	.08¼	- —
water-gas, crude, dms., c.l., works.	bbl.	8.25	- —
l.c.l., works	dm.	8.75	- —
refd., dms., c.l., works.	dm.	9.25	- —

Cobalt acetate,[6] bbls., kgs., dlvd.	lb.	.83¾	—
feed grade, 49.5% Co., kgs.	lb.	1.25	- —
Carbonate,[6] powd., bgs., works.	lb.	1.58	- —
feed grade, 29% Co., kgs.	lb.	1.85	- —
Chloride, kgs., works.	lb.	.87½	- —
feed grade, 24.5% Co., kgs.	lb.	1.25	- —
Hydrate,[6] bbls.	lb.	2.04	- —
feed grade, 62% Co., kgs.	lb.	2.25	- —
Linoleate, paste, 5%, dms.	lb.	.32	- .35
solid, 8½%, dms.	lb.	.44	- —
Nitrate, feed grade, 20.4% Co., kgs.	lb.	1.25	- —
Oleate, bbls.	lb.	.44	Nom.
Oxide,[6] black, kgs.	lb.	1.84	- —
Phosphate, feed grade, 34% Co., kgs.	lb.	1.75	- —
Resinate, fused A, bbls.	lb.	.15	- —
1%, cobalt oxide, bbls.	lb.	.15	- —
2%, cobalt oxide, bbls.	lb.	.16	- —
3½%, cobalt oxide, bbls.	lb.	.18	- —
precip., dms., dlvd.	lb.	.35½	- —
Sulphate,[6] dms.	lb.	.65	- —
feed grade, 21% Co., kgs.	lb.	1.00	- —

Cobalt salts, feed grade, quotations are f.o.b. Philadelphia, Cleveland, or New York.

Cobalt-ammonium sulphate, 14% Co., kgs.	lb.	.75	- —
Cocaine hydrochloride, 100 ozs., cns.	oz.	9.75	- —
Cochineal, gray, bgs.	lb.	.37	- .38
silver, Teneriffe, bgs.	lb.	.38	- .39
Cocoa butter,[4] bulk, ship't pt.	lb.	.25	- —
Cocillana bark, bgs.	lb.	.22	- .23
Codeine, cns., 100 ozs.	oz.	11.70	- —
Hydrochloride, cns., 100 ozs.	oz.	10.50	- —
Phosphate, cns., 100 ozs.	oz.	9.00	- —
Sulphate, cns., 100 ozs.	oz.	9.50	- —
Codliver oil (see Oil, codliver).			
Conosh root, black, bls.	lb.	.09	- .11
blue, bls.	lb.	.09	- .10
Colchicine, bots., cns.	oz.	No stocks	
Colchicum seed	lb.	No stocks	
Collodion, USP, dms.	lb.	.19½	- .20½
cns.	lb.	.23	- .23½
flexible, USP, dms.	lb.	.21	- .22
cns.	lb.	.25	- .31
Colocynth pulp, bls.	lb.	.75	- .80
Colombo root, bls.	lb.	.11½	- .12
Coltsfoot leaves, bgs.	lb.	.90	- 1.00
Condurango bark, bgs.	lb.	.14	- .23
Conium leaves, bls.	lb.	1.18	- 1.20
Copaiba balsam, Para, cns.	lb.	.47	- .49
S. A., USP, cns.	lb.	.50	- .52
Copper acetate,[6] normal, bbls., dlvd.	lb.	.24	—
smaller containers, dlvd.	lb.	.26	- .50
Carbonate,[6] 52-54%, bbls.	lb.	.19½	- .20
Chloride,[6] anhyd., bbls.	lb.	.22½	- .23
crystals, bbls.	lb.	.14¾	- .17
Cyanide,[6] tech., bbls.	lb.	.34	- .38
Iodide, bots.	lb.	5.15	- 5.19
Metal,[1,3,5] electrolytic	lb.	.12	- .12½
Nitrate, tech., cryst., bbls.	lb.	.16¾	- .20
Oleate, precip., bbls.	lb.	.22½	- .29½
Oxide,[6] black, bbls., works.	lb.	.19	- .28
red, com'l, kgs.	lb.	.20	- .22
Oxychloride-sulphate, bgs.	lb.	.17	- .20
Resinate, precip., bbls.	lb.	.15½	- .16
Sulphate,[1,6] 99%, cryst., bbls., c.l., works.	100 lbs.	5.00	- —
7,200 to 36,000 lbs.	100 lbs.	5.15	- —
2,700 to 7,200 lbs.	100 lbs.	5.25	- —
700 to 2,700 lbs.	100 lbs.	5.50	- —
monohydrated, dealers, dms., c.l., works.	100 lbs.	8.95	-10.05
bags in drums	100 lbs.	9.95	-10.95
Copperas, cryst., gran., bgs., c.l., works.	ton.	17.00	- —
bbls., c.l., works	ton.	20.00	- —
l.c.l., 25, wks.	100 lbs.	1.55	- —
1-4, works	100 lbs.	2.00	- —
bulk, c.l., works	ton.	14.00	- —
Copra, Coast ship't	lb.	No prices	
Coriander seed,[1] Indian, bgs.	lb.	No stocks	
Morocco, bgs.	lb.	No stocks	
Cornsilk, bls.	lb.	.23	- .24
Corn sugar, tanners', chipped, bgs., c.l., dlvd.	100 lbs.	3.605	- —
slabs, bbls., c.l.	100 lbs.	3.525	- —
Syrup, 42°, bbls., c.l.	100 lbs.	3.681	- —
43°, bbls., c.l.	100 lbs.	3.731	- —
Corrosive sublimate,[3] cryst., dms., 50 lbs. or more	lb.	2.39	- —
gran., powd., dms., 50 lbs. or more	lb.	2.39	- —
Cottonroot bark, bls.	lb.	.15	- .17
more	lb.	2.34	- —
Cottonseed hull ash,[1] 32-36% pot-ash, bgs., dlvd.	unit-ton.	1.00	- —
Meal, 8%, S. E. mills	ton.	38.60	- —
Coumarin,[1] cns., makers, primary distrib, 5 lb. or more	lb.	2.75	- —
smaller lots.	lb.	2.90	- 3.10
Cramp bark, NF, bls.	lb.	No stocks	
Cranesbill root, bls.	lb.	.18	- .19
Cream of tartar, USP, gran. or powd., bbls., 5,000 lbs. one ship't.	lb.	.57½	- —
smaller lots, bbls.	lb.	.58	- —
kgs.	lb.	.58½	- —
Creosote carbonate, bots., cbys.,	lb.	2.10	- 2.39
Coaltar, oil,[3] crude, tanks, works.	gal.	.15½	- —
refd., bbls., l.c.l., works.	gal.	.26	- —
tanks, works.	gal.	.18	- .18½
solution, tanks, works.	gal.	.141	- —
Wood, beech, bots.	lb.	1.04	- —
cbys., dms.	lb.	.85	- —
Hardwood, USP, bots.	lb.	.60	- .77
Pine, dms.	gal.	.28	- —
Cresol,[3,6] special resin grades, dms., c.l., works, frt. equald.	lb.	.09½	- .10¼
l.c.l., same basis	lb.	.10	- .11
tanks, same basis	lb.	.08¾	- .09¼

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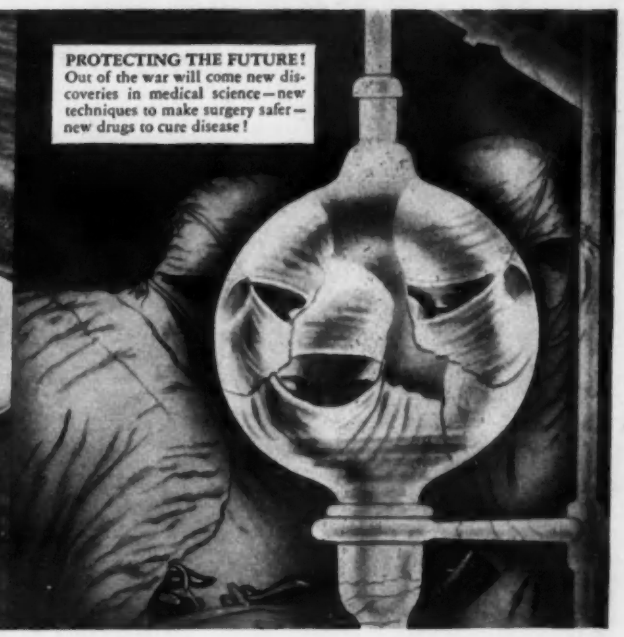
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Cresol, USP, dms., c.l., works, freight equald.	lb.	.10¾- .11¼
l.c.l., same basis	lb.	.11¼- .11⅝
tanks, same basis	lb.	.10 - .10½
rotonaldehyde, 97%, 55 and 110 gals., l.c.l., works	lb.	.15 - —
5 and 10-gal. dms., works	lb.	.18 - —
ryolite, nat., bgs., bbls., c.l., 100 lbs.		9.50 - —
smaller lots	100 lbs.	10.00 - —
synth., bgs., bbls., c.l., frt. alld. E. of Miss. R.	lb.	.08½- —
smaller lots, works	lb.	.09¼- —
ube root,[3,4] powd., 5% rotenone, bbls.	lb.	.35 - —
4% rotenone prices are 4c. per lb. less.		
ubeb berries, XX, bgs.	lb.	.70 - .90
powd., cs.	lb.	.80 - .90
ulver's root, bls.	lb.	.27 - .28
Cumin seed, Cyprus, bgs.	lb.	.14½- .15
Indian, bgs.	lb.	.14 - .14½
Morocco, bgs.	lb.	.14 - .14½
Persian, bgs.	lb.	.14¼- .14½
Cyanamide,[5,6] fertilizer mixing grade, guaranteed 21% N, pulv., bgs., Niagara Falls, Ont., contracts	unit-ton.	1.52½- —
20.6% N., gran., bulk, same basis	unit-ton.	1.62½- —
Cyclohexane, 98-100%, wks.	lb.	.14 - .16
tech., works	lb.	.09½- .11
Cyclohexanol, 98-100%, wks.	lb.	.21 - .23
Cyclohexanone, 98-100%, wks.	lb.	.30 - .32
tech., works	lb.	.29 - .30½
Cyclopropane, USP, cyls., divd.	gal.	.27 - —

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Damiana leaves, bls.	lb.	.14 - .15
Dandelion root, bls.	lb.	.25 - .33
Decanol,[4] normal, tech., dms., divd.	lb.	.35 - —
Deertongue, bls.	lb.	21 Nom.
Defluorinated phosphate,[1] paper bgs., works	ton.	34.25 - —
Degras,[1,4] common, bbls.	lb.	.10 - .12
neutral, bbls.	lb.	.27½- .29
Derris root,[3,4] powd., 5% rotenone, bbls.	lb.	.35 - —
4% rotenone prices are 4c. per lb. less.		
Dextrin, British gum, bgs., c.l.	100 lbs.	4.61 - —
Chicago	100 lbs.	4.25 - —
l.c.l.	100 lbs.	4.71 - —
Chicago	100 lbs.	4.35 - —
Corn, canary, bgs., c.l.	100 lbs.	4.36 - —
Chicago	100 lbs.	4.00 - —
l.c.l.	100 lbs.	4.46 - —
Chicago	100 lbs.	4.20 - —
white, bgs., c.l.	100 lbs.	4.31 - —
Chicago	100 lbs.	3.95 - —
l.c.l.	100 lbs.	4.41 - —
Chicago	100 lbs.	4.05 - —
Potato, bgs., c.l.	lb.	.10 - —
l.c.l., bgs.	lb.	.10¼- .11¾
Diacetone (see Alcohol, diacetone).		
Diacetyl, bots.	lb.	6.00 - 7.00
Diamyl ether (see Amyl ether).		
Phthalate,[4] dms., c.l., divd.	lb.	.2170- .2200
l.c.l., divd.	lb.	.2220- .2250
tanks, divd.	lb.	.2070- .2100
Sulphate, l.c.l., dms., works	lb.	.25 - —
Diamylamine, dms., c.l., wks.	lb.	.61 - —
l.c.l., works	lb.	.64 - —
Diamylphenol, 2:4, dms., c.l., works	lb.	.18 - —
l.c.l.	lb.	.21 - —
Diatomaceous earth, dom., chemically pure, bgs., c.l., Atlantic Coast	lb.	.07 - —
l.c.l., ex whse.	lb.	.10 - .16
nat., bgs., c.l., Pacific Coast	ton.	22.00 -25.00
l.c.l., ex whse.	ton.	45.00 - —
purified, bgs., c.l., Atlantic coast	ton.	55.00 -59.00
l.c.l., ex whse.	ton.	85.00 -90.00
Diatomaceous earth, import, Algerian, bgs., c.l.	ton.	No prices
Mexican, white, bgs., c.l., c.l.f.	lb.	.02 - .06
	lb.	.02 - .06
l.c.l.	lb.	04 - .06
Dibutyl phthalate,[4] 5-gal. cns., works	lb.	.2630- —
1-gal. cns., same basis	lb.	.2630- —
dms., returnable, c.l., same basis	lb.	.2180- —
l.c.l., same basis	lb.	.2230- —
tanks, same basis	lb.	.2080- —
Sebacate, dms., works	lb.	.497 - .517
Tartrate, dms.	lb.	.92 - 1.02
Dibutylamine, dms., c.l., works.	lb.	.61 - —
Dichloroethyl ether,[4] dms., c.l., works	lb.	.15 - —
l.c.l.	lb.	.16 - —
tanks	lb.	.14 - —
Diethyl carbonate, com'l, dms.	lb.	.25 - —
refd., 99%, dms.	lb.	.30 - —
Oxalate, dms., c.l., divd.	lb.	.3020- —
l.c.l., divd.	lb.	.3070- —
Phthalate,[4] dms., c.l., divd.	lb.	.2120- .2170
l.c.l.	lb.	.2170- .2220
tanks	lb.	.2050- .2250
Sulphate, dms., c.l., works	lb.	.15 - —
l.c.l., works	lb.	.14 - —
tanks	lb.	.12 - —
Diethylaminoethanol,[4] l.c.l., dms., works, frt. alld. E. of Miss. R.	lb.	.75 - —
Diethylaniline, dms.	lb.	.40 - —
Diethyleneglycol,[4] dms., c.l., wks.,	lb.	.14 - —
l.c.l., works	lb.	.15½- —
Monobutylether, dms., works	lb.	.22½- .24½
Monoethylether,[4] dms., c.l., works	lb.	.14½- —
l.c.l., works	lb.	.15½- —
tanks, works	lb.	.13½- —
Digitalis leaves, dms.	lb.	.60 - .65
Diglycol laurate, dms.	lb.	.31 - .33
Oleate, light, bbls., c.l.	lb.	.17 - —
Stearate, bbls., c.l.	lb.	.23 - —
Di-isobutyl ketone, dms., works,	lb.	.19 - —
Diliseed, cleaned, bgs.	lb.	No stocks
dewhiskered, bgs.	lb.	No stocks
Dimethyl phthalate,[4] dms., c.l., divd.	lb.	.1970- .2000
l.c.l., divd.	lb.	.2020- .2060
tanks, divd.	lb.	.19 - —
Dimethylamine, dms., c.l., divd.	lb.	.85 - —
l.c.l., divd.	lb.	.90 - —
Dimethylaniliin, dms., c.l.	lb.	.33 - —
l.c.l., dms.	lb.	.34 - —
Dinitrobenzene, bbls., 80° min.	lb.	.18 - —
Dinitrochlorobenzene, dms.	lb.	.14 - —
Dinitronaphthalene, kgs.	lb.	.35 - .36
Dinitrophenol, bbls.	lb.	.32 - —
Dinitrotoluene, dms.	lb.	.18 - —
oily, dms.	lb.	.06 - —
Diorthotoluoiguanidin,[4] dms., tons, divd.	lb.	.44 - —
smaller lots	lb.	.46 - .47
Dioxan, dms., c.l., frt. alld.	lb.	.20 - —
l.c.l., same basis	lb.	.21 - —
tanks, same basis	lb.	.19 - —
Dip oil (see Tar acid oil).		
Dipentene, dms., works	gal.	.56 - .58
tanks	gal.	.52 - —
dest., dist., dms.	gal.	.55 - .58
tanks	gal.	.45 - —
Diphenyl, bbls., c.l., works	lb.	.15 - —
l.c.l., works	lb.	.16 - .20
Oxide, perfume grade, cns.	lb.	.45 - .50
dms.	lb.	.43 - .45
Diphenylamine,[4] bbls.	lb.	.25 - —
Diphenylguanidin,[4] dms., tons,	lb.	.35 - —
smaller lots	lb.	.36 - .37
Dimethylethyl carbinol (see Carbinol).		
Divi-divi,[3] bgs., ex dock	ton.	63.00 -70.00
Doggrass root, imp., cut, NF,	lb.	.50 - 1.00
dom., bls.	lb.	.36 - .44
Dogwood bark, Jamaica, bls.	lb.	.07 - .09
Dover's powder, USP, cns.	lb.	2.75 - 2.80
Dragon's blood, reeds, cs.	lb.	.85 - .90
Dyes, coaltar (certified colors) for foods, drugs and cosmetics:—		
Blue, FD&C blue, No. 1, cns.	lb.	13.50 - —
FD&C blue, No. 2, cns.	lb.	13.50 - —
Green, FD&C green, No. 1, cns.	lb.	13.50 - —
FD&C green, No. 2, cns.	lb.	17.50 - —
FD&C green, No. 3, cns.	lb.	27.50 - —
Orange, FD&C orange, No. 1, cns.	lb.	2.90 - —
FD&C orange, No. 2, cns.	lb.	3.65 - —
Red, FD&C red, No. 1, cns.	lb.	6.00 - —
FD&C red, No. 2, cns.	lb.	3.15 - —
FD&C red, No. 3, cns.	lb.	17.50 - —
FD&C red, No. 4, cns.	lb.	5.75 - —
FD&C red, No. 32, cns.	lb.	4.15 - —
Yellow, FD&C yellow, No. 1, cns.	lb.	8.50 - —
FD&C yellow, No. 3, cns.	lb.	2.61 - —
FD&C yellow, No. 4, cns.	lb.	2.61 - —
FD&C yellow, No. 5, cns.	lb.	3.13 - —
FD&C yellow, No. 6, cns.	lb.	3.13 - —
Dyes, coaltar (certified colors) for drugs and cosmetics:—		
Black, D&C black, No. 1	lb.	8.35 - —
Blue, D&C blue, No. 6	lb.	13.50 - —
Brown, D&C brown, No. 1, cns.	lb.	12.35 - —
Green, D&C green, No. 5, cns.	lb.	12.35 - —
D&C green, No. 6, cns.	lb.	12.35 - —
Orange, D&C orange, No. 4, cns.	lb.	8.35 - —
D&C orange, No. 4, cns.	lb.	15.35 - —
D&C orange, No. 10, cns.	lb.	15.85 - —
D&C orange, No. 11, cns.	lb.	17.35 - —
Red, D&C red, No. 5	lb.	6.00 - —
D&C red, No. 17	lb.	8.35 - —
D&C red, No. 18	lb.	18.35 - —
D&C red, No. 19, cns.	lb.	15.35 - —
D&C red, No. 22, cns.	lb.	8.35 - —
D&C red, No. 33, cns.	lb.	13.35 - —
D&C red, No. 37, cns.	lb.	12.35 - —
Yellow, D&C yellow, No. 7, cns.	lb.	8.35 - —
D&C yellow, No. 8, cns.	lb.	8.35 - —
D&C yellow, No. 11, cns.	lb.	10.85 - —
Dyes, coaltar (certified colors), for external use drugs and cosmetics:—		
Blue, Ext. D&C blue, No. 1, cns.	lb.	12.35 - —
Green, Ext. D&C green, No. 1, cns.	lb.	12.35 - —
Red, Ext., D&C red, No. 1, cns.	lb.	10.35 - —
Ext. D&C red, No. 3	lb.	21.85 - —
Ext. D&C red, No. 8	lb.	7.35 - —
Ext. D&C red, No. 10, cns.	lb.	12.35 - —
Ext. D&C red, No. 13, cns.	lb.	12.35 - —
Yellow, Ext. D&C yellow, No. 1, cns.	lb.	8.35 - —
Dyes, coaltar, for general uses[3] (numbers are those of Colour Index Scale):—		
26 Chrome yellow 2G	lb.	.65 - .70
40 Chrome yellow R	lb.	.50 - 1.00
53 Victoria violet	lb.	.80 - 1.00
165 Lake red C	lb.	.70 - .80
170 Fast red A[4]	lb.	.56 - .60
180 Fast red VR	lb.	1.50 - 1.60
189 Lake red R, paste	lb.	.85 - .90
189 Lake red R, powd.	lb.	3.00 - 3.10
202 Chrome blue black U	lb.	.35 - .42
204 Chrome black A	lb.	.42 - .45
208 Fast red blue R	lb.	.75 - 2.00
216 Chrome red B	lb.	1.75 - 2.00
262 Cloth red 2B	lb.	.90 - .95
289 Fast cyanin 5R	lb.	.90 - 1.00
296 Chrome black F	lb.	.85 - .88
304 Paper yellow	lb.	.83 - .90
307 Fast cyanin black B	lb.	.80 - .85
326 Direct cast scarlet	lb.	2.00 - 2.25
365 Chrysophenin G	lb.	.58 - .70
382 Direct scarlet B	lb.	1.15 - 1.20
387 Direct violet B	lb.	1.00 - 1.30
394 Direct violet N	lb.	.80 - .85
401 Developed black BHN,	lb.	.45 - .60
406 Direct blue 2B	lb.	.66 - .70
415 Direct orange B	lb.	.60 - .70
419 Direct fast red F	lb.	.70 - .73
420 Direct brown M	lb.	.55 - .57
448 Benzo purpurin 4B	lb.	.65 - .70
495 Benzo purpurin 10B	lb.	.40 - .60
502 Direct ascrin G	lb.	.75 - .80
512 Direct blue RD	lb.	.80 - 1.00
518 Direct pure blue 6B	lb.	1.20 - 1.30
520 Direct pure blue	lb.	.50 - 1.00
529 Direct fast black IFF	lb.	.55 - 1.00
581 Direct black EW	lb.	.50 - .54
582 Direct black RX	lb.	.35 - .45
592 Direct green B	lb.	.50 - .55
594 Direct green G	lb.	.50 - .55
596 Direct brown 3GO	lb.	.85 - 1.00
620 Direct yellow R	lb.	1.25 - 1.50
698 Acid violet	lb.	1.00 - 3.00
812 Primulin	lb.	.70 - .75
814 Direct fast yellow	lb.	2.00 - 2.25
845 Nigrosin (water soluble)	lb.	.35 - .50
1177 Indigo, 20% paste	lb.	.15 - .18
Benzo fast black L.	lb.	.90 - 1.00
Sulphur black	lb.	.20 - .28
Sulphur blue	lb.	.45 - 1.00
Sulphur brown	lb.	.25 - .50
Sulphur maroon	lb.	.40 - —
Sulphur olive	lb.	.25 - .54
Sulphur tan	lb.	.30 - .50
Sulphur yellow	lb.	.30 - .50
Zambesi black	lb.	.75 - .80
Black:—		
865 Nigrosin derivatives.	lb.	.36 - .44

Gair Cartons by Air
One million planes will be in active service by
1950, reports the Civil Aeronautics Adminis-
the future will go by air—Gair
tainers have proven to be ideal where
weight is the first consideration
. . . Consult our engineers
Robert Gair Company, Inc.
New York—Toronto
Save Waste Paper
for War Production
GAIR
FOLDING CARTONS • BOXBOARDS • FIBRE & CORRUGATED SHIPPING CONTAINERS

Dyes, coaltar, for general uses[6] (numbers are those of Colour Index Scale):—

Blue:—
7076 Alizarin astrol base..lb.15.00 - —
1076 Alizarin cyanin green base..lb. 6.00 - —
Brown:—
Brown .....lb. 1.15 - —
Green:—
1076 Alizarin cyanin green..lb. 5.00 - —
Green .....lb. .75 - —
Orange:—
24 Sudan I.....lb. .75 - —
ded shade.....lb. .75 - —
Red:—
75 Sudan II.....lb. 1.05 - —
208 Sudan IV.....lb. .95 - —
680 Oil violet.....lb. .50 - —
749 Rhodamine B (oil pink). lb. 2.50 - —
1060 Anthraquinone,[6] violet base..lb. 5.00 - —
Yellow:—
15 Amidoazobenzene yellow..lb. .90 - —
17 Amidoazotoluene yellow, lb. .75 - —
61 Yellow OB.....lb. 1.40 - 2.00

Dyes, coaltar, for stains, spirit-soluble (prices in barrels of 250 lbs. each; lots of 25 lbs. to a barrel, 3c. per lb. higher, f.o.b. sellers' works or warehouse).

Black:—
246 Naphthol blue black S.lb. .50 - —
729 Victoria blue B.....lb. 1.05 - —
861 Indulin .....lb. .97 - —
873 Methylene gray.....lb. 1.50 - —
909 New blue R.....lb. 1.30 - —
922 Methylene blue.....lb. 1.00 - —
1054 Alizarin saphirol B..lb. 1.90 - —
1180 Indigotin IA.....lb. .85 - —
Blue:—
714 Patent blue A.....lb. 1.06 - 1.10
Brown:—
221 Bismarck brown G....lb. .47 - .62
234 Resorcin brown Y....lb. .65 - —
235 Resorcin dark brown R, lb. .66 - —
332 Bismarck brown R....lb. .47 - .62
706 Phosphin .....lb. 4.65 - —
Green:—
5 Naphthol green B....lb. 1.00 - —
637 Malachite green.....lb. 1.35 - —
662 Brilliant green.....lb. 2.00 - —
666 Guinea green B.....lb. 1.15 - —
727 Wool green S.....lb. .58 - —
924 Methylene green B...lb. 1.55 - —
1078 Alizarin cyanin green.lb. 2.00 - —
Orange:—
10 Chrysoidin G.....lb. .44 - —
21 Chrysoidin R.....lb. .41 - —
27 Orange G.....lb. .50 - —
31 Amidonaphthol red G.lb. .42 - —
37 Amidonaphthol red 6B, lb. .68 - —
151 Orange Y.....lb. .21 - .32
161 Orange R.....lb. .34 - —
Red:—
79 Ponceau R.....lb. .48 - —
88 Fast red B.....lb. 1.05 - —
176 Fast red A[6].....lb. .54 - —
179 Azorubin .....lb. .60 - —
183 Crocein scarlet 3BX..lb. .72 - .75
185 Cochineal red A.....lb. .60 - —
202 Brilliant crocein M...lb. .68 - —
677 Fuchsin .....lb. 2.10 - —
749 Rhodamine B.....lb. 3.50 - —
752 Rhodamine 6B.....lb. 4.50 - —
766 Eosin G.....lb. 1.50 - —
841 Safranin .....lb. 1.45 - —
Violet:—
680 Methyl violet B.....lb. .70 - .75
681 Crystal violet C.....lb. 1.75 - —
695 Acid violet 4BN.....lb. .89 - —

Dyes, coaltar, for stains, spirit-soluble (prices in barrels of 250 lbs. each; lots of 25 lbs. to a barrel, 3c. per lb. higher, f.o.b. sellers' works or warehouse).

Yellow:—
10 Naphthol yellow S...lb. .88 - —
132 Metanil yellow.....lb. .56 - .58
636 Fast light yellow....lb. 1.25 - —
639 Xylene light yellow..lb. 1.15 - —
640 Tartrazin .....lb. .90 - —
655 Auramine .....lb. 1.27 - —

Dyes, coaltar, for stains, water-soluble (prices in barrels of 250 lbs. each; lots of 25 lbs. to a barrel, 3c. per lb. higher, f.o.b. sellers' works or warehouse).

Black:—
864 Nigrosin .....lb. .36 - .44
Blue:—
860 Indulin .....lb. .60 - .70
Brown:—
331 Bismarck brown.....lb. 1.50 - —
Green:—
637 Malachite green base.lb. 2.00 - —
Orange:—
20 Chrysoidin G.....lb. .95 - —
21 Chrysoidin R.....lb. .90 - —
Red:—
677 Fuchsin, magenta, base. lb. 7.20 - —
749 Rhodamine B.....lb. 4.75 - —
Yellow:—
67 Amidoazotoluene yellow. lb. .75 - —
655 Auramine .....lb. 2.00 - —
800 Chinolin yellow SS...lb. 2.00 - —
Violet:—
680 Methyl violet base....lb. .95 - —

Dyes, natural (see name of article).

E

Echinacea root, bls.....lb. No stocks
Egg[1] albumen (see Albumen).
Yolk, dried, dom., bbls.....lb. 1.15 - —
imported .....lb. No stocks
Elder flowers, bright, bls.....lb. .57 - .58
Elecampane root, bls.....lb. .18 - .19
Elm bark, grinding, bls.....lb. .14 - .15
powd., bbls., bxs.....lb. .20 - .21
select, bndls.....lb. .20 - .22
Emetine hydrochloride, bots..oz.21.00 -33.00
Ephedra, bls.....lb. .21 - .22
Ephedrine, natural, USP, anhydrous, bots..oz. 1.15 - 1.65
Hydrochloride or sulphate, tins..oz. .95 - 1.45
synthetic, USP, anhyd., bots., 100 ozs..oz. .65 - —
Hemihydrate, bots., 100 ozs., oz. .65 - —
Hydrochloride, tins, 100 ozs. or more..oz. .50 - —
Sulphate, cryst., tins, 100 ozs. or more..oz. .48 - —
Epinephrine, synth, USP, bots., gram. .75 - —
Epsom salt, tech., bgs.....100 lbs. 1.80 - —
bbls.....100 lbs. 1.90 - —
USP, cryst., bgs., c.l.....100 lbs. 2.00 - —
l.c.l., 5,000 lbs., 1 withdrawal..100 lbs. 2.25 - —
smaller lots.....100 lbs. 2.50 - —
bbls., c.l.....100 lbs. 2.10 - —
l.c.l., 5,000 lbs., 1 withdrawal..100 lbs. 2.35 - —
smaller lots.....100 lbs. 2.60 - —
Epsom salt, USP, cryst., kgs., c.l..100 lbs. 2.35 - —
l.c.l., 5,000 lbs., 1 withdrawal..100 lbs. 2.60 - —
smaller lots.....100 lbs. 2.85 - —
dried, bgs., l.c.l.....lb. .03 - .03

Epsom salt prices are freight equalized with Baltimore, Carteret, N. J.; Chicago, Cincinnati, Cleveland, Houston, New Orleans, New York.

Ergot, USP, dms.....lb. 1.40 - 1.45
Eserine, bots.....oz. No prices
Sulphate, 1-gram vials....vial. 2.10 - —
Ether, acetic (see Ethyl acetate).
Amyl (see Amyl ether).
Butyl, l.c.l., dms., dlvd.....lb .50 - —
Ethyl (see Ether, sulphuric).
Nitrous, conc., bot., 100 lbs..lb .93 - 1.10
Sulphuric, conc., dms.....lb. .11 - .16
USP, anesthesia, hospitals, 1-lb. cns..lb. .60 - .61
synthetic, dms., c.l., works..lb. .14½- —
l.c.l., works.....lb. .15½- —
tanks .....lb .12½- —
Ethyl acetate,[2,6] 85-90%, dms., c.l., frt. alld..lb. .1170-.1290
l.c.l., frt. alld.....lb. .1220-.1250
tanks, frt. alld.....lb. .1070-.1100
95-98%, dms., c.l., frt. alld., lb. .12¼-.13¼
l.c.l., frt. alld.....lb. .12⅝-.13⅝
tanks, frt. alld.....lb. .11¼-.12¼
NF, dms.....lb. .14½-.15½
Acetoacetate, dms., c.l., wks..lb. .37½- —
l.c.l., frt. alld.....lb. .38 - —
Benzoate, bots.....lb. .90 - 1.00
Bromide, tech., dms.....lb. .50 - .55
Chloride, dms.....lb. .18 - .20
Cinnamate, cns.....lb. 3.50 - 3.85
Formate, cns., dms.....lb. .27½- .90
Iodide, bots.....lb. 3.50 - 3.60
Lactate, dms., works.....lb. .32½- .39½
Myristate, dms., works.....lb. .55 - —
Oenanthate, dms.....lb. .75 - 1.25
Oleate, dms., works.....lb. .47 - —
Oxalate, dms., frt. alld.....lb. .33 - —
Silicate, l.c.l., dms., works..lb. .77 - —
Ethylcellulose,[4] standard, pkgs., 5,000 lbs. or more, works..lb. .50 - —
smaller lots, same basis...lb. .53 - .60
Ethyldiethanolamine, dms., l.c.l., works..lb. .80 - —
Ethylene dichloride,[6] dms., c.l., works, E. of Rockies, frt. alld..lb. .0543- —
West of Rockies, same basis..lb. .0891- —
l.c.l., works, E. of Rockies, frt. alld..lb. .0891- —
West of Rockies, same basis..lb. .0941- —
tanks, E. of Rockies, same basis..lb. .0743- —
West of Rockies, same basis..lb. .0792- —
Ethyleneglycol,[2,6] dms., c.l...lb. .10 - —
l.c.l. .....lb. .11 - —
tanks .....lb. .09 - —
Monobutylether,[6] dms., c.l., works..lb. .16½- —
l.c.l., works.....lb. .17½- .20½
tanks, works.....lb. .15½- —
Monoethylether, dms., c.l., works..lb. .14½- —
l.c.l., works.....lb. .15½- .16½
tanks, works.....lb. .13½- —
Monoethylether acetate, dms., c.l., works..lb. .11½- —
l.c.l., dms.....lb. .12½- .15½
tanks, works.....lb. .10½- —
Monomethylether, dms., c.l., works..lb. .15½- —
l.c.l., works.....lb. .16½- —
tanks, works.....lb. .14½- —
Ethylethanolamine, dms., c.l., works..lb. .57 - —
l.c.l., works.....lb. .60 - —
Ethylmorphine, hydrochloride, bots..oz.10.55 -10.75
Ethylidinanilin, dms.....lb. .45 - .47½
Ethylmonoethanolamine, l.c.l., dms., works .lb. .80 - —
Ethylvanillin,[1] cns., makers, primary distrib., 5 lbs., or more. lb. 6.04 - 6.21
smaller lots.....lb. 7.02 - 7.22
Eucalyptol, cns., dms.....lb. 2.50 - 3.00
Eucalyptus leaves, bls.....lb. .10 - .12
Eugenol, cns., dms.....lb. 2.65 - 3.25
Euphorbia, bls.....lb. .12 - .13

F

Feldspar, enamel, 100 mesh, bulk, works..ton.14.00 -17.50
l.c.l., minimum, 2 tons, bgs. ton.17.00 -20.50
glass, 20 mesh, bulk, works.... ton. 9.75 -12.25
l.c.l., minimum 2 tons, bgs. ton.12.75 -16.25
pottery, bulk, c.l., works...ton.17.00 -19.00
l.c.l., min. 2 tons, bgs....ton.20.00 -22.00
Fennel seed, Argentine, bgs..lb. No stocks
Indian, bgs.....lb. No stocks
Fenugreek seed, bgs.....lb. .09 - .09½
Ferric sulphate, anhyd., bgs., c.l., works..ton.35.00 - —
l.c.l. .....ton.40.00 - —
Film scrap, colored, cs., 50 lbs. or over, works..lb. .13½- —
smaller lots, works.....lb. .15 - —
water white, cs., 50 lbs. or over, works..lb. .14½- —
smaller lots, works.....lb. .17 - —
Fir, balsam, Canada, cns....gal.19.00 -20.00
Oregon, bbls.....gal. 2.25 - 2.50
Fishberries, bgs.....lb. .24 - .25
Fishmeal,[1] grd., 60% protein, bgs., East Coast fish factories..ton.72.50 - —
65% protein, same basis..ton.78.50 - —
Fishscrap, dried, 50% protein bulk, East Coast..ton.66.50 - —
Flake, white, dom., bbls.....lb. .09 - —
kegs .....lb. .11 - —
Flaxseed, French, black, bgs..lb. .70 - .75
Indian, blonde, bgs.....lb. .13 - .16
Fluospar,[1] No. 1, ground, 95-98%, bulk, c.l., mines..... net ton.37.00 - —
washed gravel, 70° or more CaF_2, mines...lb.33.00 - —
65% CaF_2, mines.....lb.32.00 - —
60% CaF_2, mines.....lb.31.00 - —
less than 60% CaF_2, mines, lb.30.00 - —
Formaldehyde,[1,3,6] bbls., c.l., works..lb. .0550-.0575
l.c.l., works.....lb. .06 - .0625
dms., c.l., works.....lb. .0515-.0540
l.c.l., works.....lb. .0565-.0590
tanks .....lb. .04 - .04½
Fringetree bark, bls.....lb. .30 - .40
Fuller's earth, dom., powdered, bgs., c.l., f.o.b. Fla., Ga. mines..ton. 8.50 -15.00
f.o.b. Tex. mines.....ton.12.50 - —
spent, bulk, Bayonne..ton. 5.00 - —
Chicago .....ton. 4.00 - —
imp., English, bgs., c.l., dlvd. N. Y..ton.30.00 -40.00

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Formic Acid
Potassium Prussiate Yellow
Heavy Calcined Magnesia

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OPD—11-1-1943 16

INSIDE NEWS

NOVEMBER PREPARED BY NATIONAL CAN CORPORATION, NEW YORK, N. Y. 1943

Food Industries In Unique Wartime Position Need Practical Program In Washington

Photo From U. S. Army

Eager hands of French children reach out for cans of condensed milk being distributed by an Army sergeant, member of the U. S. task force in Oran, Algeria. Half the milk ration of U. S. troops in Oran was given out in this manner. Allied forces have also made available a quantity of powdered milk to be distributed to children up to the age of fourteen in North Africa.

For many food manufacturers, the end of the war will be the beginning of full-scale "war production." Characteristic of food's special position is the fact that *while supply increases with the Navy's success, demand increases with the Army's success.* Military as well as humane reasons dictate need to feed liberated areas.

Federal controls and rationing are therefore expected to continue for some time irrespective of military decisions in any part of the world. The best that can be expected is a gradual increase of administrative efficiency and practical thinking in the alphabetic potpourri of agencies now in control of U. S. food supplies and prices.

With OPA, FDA, FPA, Army demands, Lend Lease demands and sundry long-range "win-the-peace" planners pulling and hauling before specific directives can be arrived at in many cases, prediction of short-term Federal activity is next to impossible.

The recent trend towards introducing experienced business brains into food administration, and the repeal of grade labeling requirements which had been written into maximum price regulations, are indications of possible improvement. Here's how, food men say, the Government should enter into the picture:

1. Government should determine overall national food needs.
2. Government should then hold the proper sections in food production and distribution responsible for detailed planning.
3. Government should then cooperate in seeing that the plan gets results . . . that regulations are really effective.

U. S. Food Notes: Government has been and is accumulating *a vitamin A stockpile* for use in liberated areas, also purchasing seeds in advance . . . Need to calm consumer buying by *increased imports from Latin America* is foreseen in certain quarters. In view of naval successes, only step required is positive request from War Food Administration for ships and space . . . *Feed for livestock and poultry* is now so reduced that large marketings may end meat shortage for several months, but cut egg supply.

World Food Notes: Canada is expected to have turned 7,500,000 bushels of wheat into industrial alcohol by the end of '43 . . . *New sorts of basic foodstuffs are taking hold in Africa* under impact of war. Africans are meeting current grain shortage by return to cassava starch and manioc root . . . Australia is producing 1,000,000 *cans of Australian-grown vegetables a week* for the services. Canning techniques there have been established with the help of American experts. 471

Gum Guaiac Not Used Extensively In Preserving Food For Armed Forces

Gum guaiac is being used by Swift & Company in the stabilization of certain fats and oils, particularly lard; fatty foods in paper wrappings, for instance, are stabilized in contact with the package. Gum guaiac in meat dehydration is still experimental, and is not being used in dehydration of fruits and vegetables. It is not being used in large-scale preservation of food for the armed forces, as stated in the July issue of *Inside News.* 472

Vitamins Made In Cheese

Cheese makes its own vitamins, investigators have discovered. Vitamins of the B complex appear to be synthesized and stored in the outer portions of certain cheeses during the curing period. The types of cheese tested were Camembert, Brie, Liederkranz and Limburger. 473

Spoilage-Free Foods Seen

Foods can be freed of the thermophilic, or heat-resisting bacteria that cause spoilage, in from 1½ to 2 minutes of treatment by a new process for which a patent has been filed. Details of the process, developed after a year of research work, will not be available until the patent has been granted, but it is claimed that the process is applicable to various foods such as sugar beets, beans, soybean flour and other products. The cost of the treatment is said to be extremely low. 474

Peavine Silage as Cattle Feed

Findings of an Agricultural Experiment Station should help pea canners allay the fears of any of their growers who may have believed that feeding of pea silage to cattle made the cattle susceptible to a disease which caused them to stagger and go down. 475

Furfural,[6] ref., dms., c.l., works, lb.	.15	-	—
l.c.l., works lb.	.17½	-	.25
tech., dms., contracts, 150,000 lbs. lb.	.10	-	—
c.l., works lb.	.12½	-	—
l.c.l., works lb.	.15	-	.20
tanks, works lb.	.09	-	—
Fusel oil, crude, dms., works gal.	.75	-	—
refd., dms., dlvd lb.	.18½	-	.19½
Fustic, cryst., bbls., No. 1 lb.	.32	-	—
No. 2 lb.	.30	-	—
No. 3 lb.	.28	-	—
extract, bbls., No. 1 lb.	.16	-	—
No. 2 lb.	.15	-	—
No. 3 lb.	.12½	-	—

G

G salt, bbls. lb.	.45	-	—
Galangal root, bls. lb.	.28	-	.30
Gambier, cube, Singapore, cases, lb.	No stocks		
extract, bbls. lb.	.09½	-	.12
Gasoline[1] at refinery, ex tax:—			
Arkansas, US motor, 72-74 octane, leaded, tanks. gal.	.06	-	—
Bayonne, 70 octane, unleaded. tanks. gal.	.092	-	—
72-74 octane gal.	.092	-	.094
California, 78 octane, tanks, gal.	.075	-	—
Gulf Coast, US motor, 72-74 octane, tanks. gal.	.05¾	-	—
80 octane, tanks gal.	.06¾	-	—
Group 3, 72-74 octane, tanks, gal.	.06½	-	.07
80 octane, tanks gal.	.07¼	-	.07½
Gasoline, at refinery, ex tax, Group 3, natural, 26-70, tanks. gal.	.04¾	-	.05
Oklahoma-Texas, US motor, 72-74 octane, tanks. gal.	.05½	-	.06
Pennsylvania, western, U. S. motor, 72-74 octane, leaded, tanks. gal.	.07½	-	—
Gelatin, silver, cs. lb.	.90	-	.97
Geisemium root, bls. lb.	.15	-	.19
Gentian root, bls. lb.	.43	-	.45
grd., bbls., bxs. lb.	.48	-	.49
powd., bbls., bxs. lb.	.49	-	.50
Geraniol, 92-96%, cns., dms. lb.	3.50	-	4.50
Ginger,[1] African, No. 1, bls. lb.	No stocks		
Calicut, bgs. lb.	.26	-	.27
Cochin, bleached, bgs. lb.	.26	-	.27
unbleached, bgs. lb.	.26	-	.27
Jamaica, No. 1, bgs. lb.	.29	-	.30
No. 2, bgs. lb.	.28	-	.29
No. 3, bgs. lb.	.27	-	.28
Ginseng root, wild, South, cs. lb.	12.00	-	13.00
Glauber's salt, anhyd. (see Soda Sulphate).			
Glauber's salt, cryst., bgs., bbls., c.l., works lb.	1.05	-	1.25
l.c.l., 5 tons or over, works, 100 lbs.	1.15	-	1.35
less than 5 tons, works, 100 lbs.	1.25	-	1.45
Glue, producers, bone,[1] calcimine type, 24 millipoise, 36 jellygrams, bgs., c.l., East of Midwest lb.	.16	-	—
l.c.l. lb.	.17	-	—
80/58, bgs., c.l., same basis, lb.	.15½	-	—
l.c.l. lb.	.16½	-	—
Glue, producers, bone, 58/82, bgs., c.l., same basis lb.	.17	-	—
l.c.l. lb.	.18	-	—
82/105, c.l., same basis lb.	.18½	-	—
l.c.l. lb.	.19½	-	—
Hide,[1] 100-121 (jelly test in grams), bgs., c.l., dlvd lb.	.14	-	—
bbls., c.l., dlvd lb.	.14½	-	—
122-149, bgs., c.l., dlvd lb.	.15	-	—
bbls., c.l., dlvd lb.	.15½	-	—
150-177, bgs., c.l., dlvd lb.	.16	-	—
bbls., c.l., dlvd lb.	.16½	-	—
178-206, bgs., c.l., dlvd lb.	.17	-	—
207-236, bgs., c. l., dlvd lb.	.18	-	—
237-266, bgs., c.l., dlvd lb.	.19	-	—
bbls., c.l., dlvd lb.	.19½	-	—
267-298, bgs., c.l., dlvd lb.	.20	-	—
bbls., c.l., dlvd lb.	.20½	-	—
299-300, bgs., c.l., dlvd lb.	.21	-	—
bbls., c.l., dlvd lb.	.21½	-	—
331-362, bgs., c.l., dlvd lb.	.22	-	—
bbls., c.l., dlvd lb.	.22½	-	—
363-394, bgs., c.l., dlvd lb.	.23	-	—
bbls., c.l., dlvd lb.	.23½	-	—
395-427, bgs., c.l., dlvd lb.	.24	-	—
bbls., c.l., dlvd lb.	.24½	-	—
428-460, bgs., c.l., dlvd lb.	.25	-	—
bbls., c.l., dlvd lb.	.25½	-	—
461-494, bgs., c.l., dlvd lb.	.26	-	—
bbls., c.l., dlvd lb.	.26½	-	—
495-529, bgs., c.l., dlvd lb.	.27	-	—
bbls., c.l., dlvd lb.	.27½	-	—

Producers' hide glue, l.c.l., prices 1c. over c.l. Jobbers' prices, 2c. to 3½c. over producers.' Chrome and coney glue, 267 or higher jellygram, c.l., 2c. over above prices; below 267 jellygram, 1c. higher. Freight charges above 75c. per 100 pounds may be added.

Glycerin,[1,3,6] CP, BP, 98%, dms., c.l., dlvd. zones A and C lb.	.18¾	-	—
l.c.l., same basis lb.	.19¼	-	—
tanks, same basis lb.	.18½	-	—
USP, 95%, dms., c.l., same basis lb.	.18¼	-	—
l.c.l., same basis lb.	.18¾	-	—
tanks, same basis lb.	.18	-	—
dynamite, high gravity, yellow distilled, dms., c.l., same basis lb.	.18¼	-	—
l.c.l., same basis lb.	.18¾	-	—
tanks, same basis lb.	.18	-	—

Chemically pure and dynamite glycerin are sold to the U. S. government at prices 1c. lower than above.

saponification, 88%, to refiners, dms., c.l., l.c.l., or tanks, same basis lb.	.12¾	-	—
to individual users, dms., c.l., same basis lb.	.13¾	-	—
l.c.l., same basis lb.	.14¾	-	—
tanks lb.	.12¾	-	—
soapiye, 80%, dms., c.l., l.c.l., or tanks lb.	.11½	-	—

Glycerin prices in Zone B, 2c. higher.

Zone A is:—Col., east of but not including these counties:—Costilla, Custer, Douglass, Fremont, Gilpin, Grand, Huerfano, Jackson, Jefferson, and Teller; all points east of and including Kan., Neo., N. Dak., Omaha, S. Dak., Texas, and Laramie county, Wyo. Zone B is territory between zones A and C, as follows:—Ariz., Col., west of and including counties specified above; Nev., New Mex., Ore., east of including these counties:—Deschutes, Hood River, Jefferson, Klamath, and Wasco; Wash., east of and including these counties:—Chelan, Kittitas, Klichat, Oklanogan, and Yakima.

Zone C, territory west of Zone B.

NATIONAL CAN

PLANTS: NEW YORK - BOSTON - BALTIMORE - CHICAGO - HAMILTON, OHIO - FORT WAYNE, INDIANA

Synthetic Rubber Putty

A new putty, in which man-made rubber entirely replaces natural crude rubber formerly used, is superior to the previous product, according to the nationally recognized manufacturer. At the present time it is employed chiefly for sealing metal joints in combat equipment, though diverse uses are suggested. 476

Oil Purifiers

Lubricating and heating oil reclaimers, with capacities ranging from two and one-half gallons in 70 to 90 minutes to 120 gallons in the same length of time, are available in 11 models and two series, both types using contact filtration in which common refinery earths, available on the open market, are used. These reclaimers are recommended for restoring all types of used oils, including drained oils, from a wide range of installations.

The machines are said to be capable of reclaiming used oils without presettling or pretreatment and restoring the oils to substantially the same values of fire, flash, viscosity, color, neutralization number and precipitation number as the new parent oil. Operated under thermostatic control, they permit the man working the machine to do so incident to his regular duties.

Of potential value to organizations having their own fleet of trucks and motor cars, as well as to plant and manufacturing processes of companies. 477

Aerosol "Bombs"

A new insecticide concentrate has just been patented by a Bureau of the United States Department of Agriculture. At the present time, the Armed Forces are taking the entire output of these aerosol bombs, which are being made commercially by four companies. The concentrate is contained in a steel cylinder, which acts both as a container and a dispenser, a valve serving to release the insecticide in the form of a fine mist or fog. Because droplets of insecticide dispersed into the air in this way are much smaller than those dispersed by the usual sprayer, they have been proved to be more toxic to insects. 478

Pest Damage Needs Control

Total annual damage to our food supply through the attacks of insects and rodents runs to approximately two billion dollars. The estimated loss is approximately six to seven per cent of our total available food or about the amount we lend-leased to all our allies last year. Pest control through intelligent and repeated use of insecticides is thus more important than ever as a wartime necessity. A list of 10 leading insects from standpoint of the damage they cause is available. 479

Technical Topics

TEXTILE PRESERVATIVE — Waterproofing and rot-proofing of textiles has been seriously studied in Australia to meet moist, high temperatures. Copper compounds, applied in hot impregnation, using copper-soap emulsions or mixtures of emulsions of copper soaps and suitable waxes, have proved most effective. 480

FISH INCREASE—Foreign experiments in a fishing community show that fish can be multiplied as much as ten times by the addition of certain compounds and phosphates to the water in a manner similar to the fertilization of land. 481

GARMENTS FROM OCEAN—Among the many products Britain expects to manufacture in a new postwar industry using seaweed is an inexpensive fabric. 482

INFECTION AVOIDED — Australian process for sucking eggs from their shells for dehydration without the pulp touching the outer shell, or contact with hands, claims complete safety from infection. From 100,000 to 1,000,000 bacteria and 200 to 500 mould spores tests show on the outer surface of an average clean egg. 483

PINE NEEDLES—A vitamin valuable in the daily human diet has been discovered in research on pine needles by Russian scientists. 484

INVISIBLE RAINCOAT—An invisible raincoat is formed on cloth, paper and other materials by exposing them to chemical vapors which make them waterproof. The "raincoat" is so thin, its structure cannot be determined by chemical analysis or seen under a high-powered microscope. 485

JOJOBA—Experiments in growing jojoba bush under irrigation near Florence, Arizona, is an expansion of the commercial use of this bush which grows in semi-arid regions of Mexico and has been a new source of wealth for this country. 486

DEAD SEA SALTS—Palestine's new industry is producing chemical salts evaporated from the Dead Sea, in open evaporation pans by a new secret process, it is announced. 487

"ROTTEN CABBAGE"—Odors for detection are not new. Peppermint has been used to find a leak in pipe lines. Now the United States Bureau of Mines advises mine owners to use a chemical which smells like rotten cabbage, as a warning to miners to leave a dangerous level. 488

SODIUM CELLULOSATE—Has been introduced in Britain for use as a thickening, emulsifying, demulcent, glossing and starching agent. The material does not itself ferment, and is resistant to fungal and bacterial growths, it is declared. 489

FLUE DUST—Iodine and potassium chloride recovery from blast furnace flue dust has been advocated in Germany. 490

SODIUM METAL—Is now being used as a coolant in the exhaust valves of aircraft engines. 491

PROPYL GALLATE—Was suggested recently in Britain as a suitable agent for inhibiting the autoxidation of animal and vegetable oils. The material was found to be soluble in oils at relatively low temperatures, and to apparently have a low degree of toxicity. 492

FORMIC ACID—Can be synthesized directly and in high yield by the action of carbon monoxide on water vapor in the presence of certain catalysts, according to a recent article in German technical literature. 493

ANEMIA AID—The injection of red blood cell suspensions produced favorable results in anemic patients, in recent investigations by three physicians in the United States Medical Corps. Beneficial results were reported in 44 of the 48 test cases on which the report was based. 494

CUPROUS CYANIDE—Production by a simplified method was recently described in a British technical journal. The new method was declared to produce a material much lighter in color than by older methods, which is of especial advantage in making cuprocyanide solutions for use in the Sandmeyer reaction for preparing aromatic nitriles. 495

DEHYDRATION—The results of research on nutrient losses in manufacture and preparation of dehydrated vegetables indicates that these products should be used only in soups or stews and that all soaking and cooking waters should be made a part of the soup or stew, according to the authors of a recent paper. 496

VITAMINS IN SUGAR—Whole mature sugar cane is a fair source of thiamin and riboflavin, rich in pantothenic acid and a good source of niacin, according to findings reported recently. 497

Every effort will be made to furnish additional information on these articles. Where such information is not obtainable, we will refer inquiries to the original source of the article. Write to National Can Corporation, 110 East 42nd Street, New York City. Please mention the number at end of article—also name of the magazine you saw it in.

NATIONAL CAN CORPORATION

Manufacturers of

SANITARY PACKERS CANS · PLAIN AND LITHOGRAPHED CANS FOR FOODS, DRUGS, OILS, PAINTS, VARNISHES · STEEL DRUMS AND PAILS

Deliveries Subject to Priority Ratings

(*Advertisement*)

Glycine, medicinal, bbls., tins..lb. 1.25 - 1.55
Glycol boriborate, dms.....lb. .22 - —
Stearate, dms.....lb. .20 - —
Gold of pleasure seed, bgs....lb. No stocks
Gold chloride, acid, brown, bots., oz.20.75 -21.00
yellow, bots.....lb.18.75 -19.00
Gold-soda chloride, photo., bots., oz.13.00 - —
USP IX, bots.....oz.14.50 -14.75
Goldenseal root, bls.....lb. 5.50 - 5.75
powd., bxs.....lb. 5.75 - 6.00
Grains of Paradise, bgs.....lb. .19 - .19½
Graphite,[1,6] flake (cryst.), 90%, 325 mesh, 50% graphite, carbon, bgs., c.l., works..lb. .07 - —
bbls., c.l., works.....lb. .07½- —
L.c.l., works.....lb. .07½- —
80%, passable through 50-mesh screen, 65-80% carbon, bgs., works or whse..lb. .04½- —
70-74%, same basis.....lb. .05 - —
75-79%, same basis.....lb. .05½- —
80-84%, same basis.....lb. .06 - —
85-89%, same basis.....lb. .07 - —
90% and up, same basis....lb. .08 - —
Grease,[1,6] house, loose.....lb. .06½- —
white, choice, loose.....lb. .06¾- —
Wool (see Adeps lanae and Degras).
Green, brilliant,[1] thioflavin toner, tungstic, kgs., works..lb. 3.75 - —
molybdic, same basis.....lb. 3.25 - —
Chrome,[1] CP, dark, light, medium blue content up to 5%, bbls., dlvd. N. of Tenn. and N. C., E. of Miss. River, including St. Paul, Minneapolis, Davenport, Rock Island, St. Louis..lb. .23 - —
6-10%, bbls., same basis..lb. .24 - —
Green, chrome, CP, dark, light, medium, blue content, 11-15%, bbls., same basis..lb. .25 - —
20%, bbls., same basis...lb. .25½- —
21-25%, bbls. same basis.lb. .26 - —
26-30%, bbls., same basis.lb. .26½- —
31-35%, bbls., same basis.lb. .27½- —
36-40%, bbls., same basis.lb. .29 - —
41-45%, bbls., same basis.lb. .30½- —
46-50%, bbls., same basis.lb. .33 - —
reduced color, 5%, same basis. lb. .06¾- —
9-10%, bbls., same basis.lb. .07½- —
11-13%, bbls., same basis.lb. .08 - —
14-16%, bbls., same basis.lb. .08¾- —
17-19%, bbls., same basis.lb. .09½- —
20-21%, bbls., same basis.lb. .09¾- —
22-23%, bbls., same basis.lb. .09 - —
24-25%, bbls., same basis.lb. .09¾- —
26-27%, bbls., same basis.lb. .09½- —
28-29%, bbls., same basis.lb. .10 - —
30-31%, bbls., same basis.lb. .10¼- —
32-33%, bbls., same basis.lb. .12 - —
34-35%, bbls., same basis.lb. .13 - —
36-40%, bbls., same basis.lb. .14 - —
41-45%, bbls., same basis.lb. .17 - —
46-50%, bbls., same basis.lb. .17½- —
51-55%, bbls., same basis.lb. .18 - —
56-60%, bbls., same basis.lb. .18¼- —
61-65%, bbls., same basis.lb. .19 - —
66-70%, bbls., same basis.lb. .20 - —
71-75%, bbls., same basis.lb. .21 - —
Green, chrome, prices are ½c. higher dlvd. Ala., Fla., Ga., La. (Shreveport, 1¼c.), Miss., N. C., S. C., Tenn., Texas (Dallas, Ft. Worth, 1¼c.; El Paso, 2c.), Cedar Rapids, Des Moines, Kansas City, Lincoln, Omaha, St. Joseph, 1.6c. higher dlvd. Pac. Coast; for Denver, Pueblo, Salt Lake City and Wichita, prices are equalized with Chicago.
Oxide, pure, dms., works..lb. .24 - —
Malachite,[1] thioflavin toner, tungstic, bbls., works..lb. 3.50 - —
molybdic, bbls., works..lb. 3.00 - —
Phthalocyanin,[1] green toner, bbls., works..lb. 4.00 - 5.00
tetrahydroxide, bbls .....lb. .85 - —
Paris (see P).
Tungstated, brilliant, kgs....lb. 3.00 - —
emerald, kgs.....lb. 2.60 - —
Verdigris (see V).
Green dyes (see Dyes, green).
Grindelia robusta, bls.....lb. .11 - .12
Guaiac resin, cs.....lb. .43 - .49
Wood, bls.....lb. .05 - .06
Guaiacol, liq., dms.....lb. 1.75 - 2.01
Carbonate, fib. dms.....lb. 2.40 - 2.74
Guanidin carbonate,[1] bbs., c.l., works..lb. .57 - —
smaller lots.....lb. .58 - .72½
Guarana, powd., cs.....lb. No prices
Gum accroides (see Gum, yacca).
Aloe (see A).
Ammoniac, tears, cs.....lb. 1.20 - 1.25
Arabic, amber, sorts, bgs..lb. .14½- .15
powd., bbls.....lb. .25 - .26
white, sorts, 1, bgs.....lb. .32 - .33
Asafetida (see A).
Asphaltum (see A).
Benzoin, Siam, cs.....lb. 3.00 - 3.50
Sumatra, cs.....lb. .60 - .65
Camphor (see C).
Copal,[1] Congo, sorted, No. 30, bgs., c.l., ex dock, whse..lb. .55½- —
31, same basis.....lb. .21½- —
32, same basis.....lb. .15½- —
33, same basis.....lb. .14 - —
34, same basis.....lb. .09½- —
35, same basis.....lb. .15½- —
36, same basis.....lb. .12½- —
Gum, copal, Congo, sorted, 37, same basis..lb. .18½- —
38, same basis.....lb. .12¾- —
39, same basis.....lb. .10¾- —
40, same basis.....lb. .08 - —
41, same basis.....lb. .11¾- —
unsorted, No. 1, bgs., c.l., same basis..lb. .14¾- —
2 bgs., c.l., same basis..lb. .12¾- —
3, bgs., c.l., same basis.lb. .11¾- —
FAD, bgs., c.l., same basis. lb. 14¾- —
East India,[1] batu, bold, scraped, bgs., c.l., same basis..lb. .10½- —
unscraped, same basis.lb. .09 - —
chips, same basis....lb. .12 - —
dust, same basis.....lb. .06½- —
nubs and chips, same basis..lb. .05¾- —
black, bold, scraped, bgs., c.l., same basis..lb. .12 - —
unscraped, same basis.lb. .07½- —
nubs and chips, same basis..lb. .07¼- —
pale, Hiroe-Macassar,[1] bold, bgs., c.l., same basis..lb. .17¾- —
chips, same basis....lb. .11½- —
dust, same basis.....lb. .05½- —
nubs, same basis.....lb. .13¾- —
Singapore, Rasak, bold, bgs., same basis..lb. .22¾- —
chips, same basis....lb. .11¾- —
dust, same basis.....lb. .06½- —
nubs, same basis.....lb. .16¾- —
Macassar,[1] WS, bgs., c.l., same basis..lb. .11¾- —
MA, same basis.....lb. .08¾- —
MB, same basis.....lb. .09¼- —
dust, same basis.....lb. .07¾- —

Gum, copal, Manila, Boeas,[1] hard, bold, amber, light, bskts., c.l., same basis..lb. .18½- —
dark, light, same basis, lb. .14½- —
white, same basis....lb. .15½- —
Loba,[1] A, bgs., c.l., same basis..lb. .14 - —
B, same basis.....lb. .13¾- —
C, same basis.....lb. .13¾- —
CRB, same basis.....lb. .12 - —
CNE, same basis.....lb. .10 - —
D, same basis.....lb. .12¾- —
DBB, same basis.....lb. .11 - —
DU, same basis.....lb. .08¾- —
DK, same basis.....lb. .09½- —
MA, same basis.....lb. .09¾- —
dust, same basis.....lb. .07¾- —
MB, same basis.....lb. .09¼- —
WS, same basis.....lb. .11¾- —
Manila-Singapore,[1] white split chips, bgs., c.l., same basis..lb. .15½- —
dust, same basis.....lb. .07¾- —
whse., entry point, c.l.. lb. .08¼- —
Philippine,[1] Manila, extra bold, pale scraped, bskts., same basis..lb. .15 - —
bold, pale scraped, same basis..lb. .15 - —
extra pale, bold, sorts, same basis..lb. .12¾- —
pale chips, bold, same basis..lb. .13 - —
pale, subs, WCB, same basis..lb. .13¾- —
small chips, same basis..lb. .11¾- —
SG, same basis.....lb. .10¼- —
seeds and dust, same basis. lb. .08¾- —
Pontianak, bold, scraped, bgs., c.l., same basis..lb. .23¾- —
mixed, same basis.....lb. .17¾- —
chips, small, same basis..lb. .12¾- —
cuttings of split, same basis..lb. .19½- —
nubs, same basis.....lb. .15 - —
Gum copal, l.c.l. prices, ¼c. to ½c. higher.
dammar,[1] Batavia, A, cs., c.l., same basis..lb. .35¾- —
A/C, same basis.....lb. .31¼- —
A/D, same basis.....lb. .28¾- —
A/E, same basis.....lb. .25¾- —
B, same basis.....lb. .34¾- —
C, same basis.....lb. .29¾- —
D, same basis.....lb. .25¾- —
E, same basis.....lb. .16¾- —
F, same basis.....lb. .13¾- —
dust, same basis.....lb. .13¾- —
Singapore,[1] No. 1, cs., c.l..lb. .30¾- —
2, bgs., same basis....lb. .25 - —
3, bgs., same basis....lb. .12¾- —
chips, cs., same basis...lb. .23½- —
dust, bgs., same basis....lb. .13 - —
seeds, cs., same basis....lb. .17¾- —
Gum dammar, l.c.l. prices ¼c. to ½c. higher.
Hiemi,[1] cns.....lb. .09¼- .09¾
Ester, ord., dms., c.l., divd., Ill., Ind., Ky., Mich., Mid.-Atl. states, N. England states, Minneapolis, N. C., Ohio, St. Louis, St Paul, Va., W. Va..lb. .09¼- —
other points, divd....lb. .10 - .11
l.c.l., divd., Ill., Ind., etc. lb. .09¾- .10
other points, divd.....lb. .10½- .12
Euphorbium, cs.....lb. 1.50 Nom.
Galbanum, cs.....lb. 1.60 - 1.65
Gamboge, pipe, cs.....lb. No stocks
powd., bbls.....lb. No stocks
Guaiac (see Guaiac resin).
Karaya, bbls., bxs., dms....lb. .14 - .34
Kauri,[1] brown, chips, extra, bgs., c.l., ex dock, whse.. lb. .18 - —
90%, same basis.....lb. .16 - —
dust, same basis.....lb. .12½- —
nubs, same basis.....lb. .24 - —
No. 1 extra, same basis....lb. .34 - —
superior, same basis.....lb. .31 - —
No. 2 extra, same basis.....lb. .30 - —
superior, same basis.....lb. .27½- —
No. 3, same basis.....lb. .28 - —
x, same basis.....lb. .36 - —
2x, same basis.....lb. .49 - —
3x, same basis.....lb. .77 - —
bush, assorted, same basis..lb. .35 - —
bright, same basis.....lb. .18 - —
bold, same basis.....lb. .40 - —
chips, same basis.....lb. .32 - —
dark, same basis.....lb. .18 - —
white, chips, pale, same basis, lb. .29¾- —
extra, same basis.....lb. .25½- —
dust, pale, same basis....lb. .20¾- —
extra, No. 1, same basis..lb. .43 - —
No. 2, same basis.....lb. .31 - —
No. 3, same basis.....lb. .30 - —
superior, No. 1, same basis, lb. .41 - —
No. 2, same basis.....lb. .31 - —
No. 3, same basis.....lb. .22 - —
3x, same basis.....lb. .65¼- —
4x, same basis.....lb. .66 - —
6x, same basis.....lb. 1.50 - —
Gum kauri, l.c.l., prices are ¼c. to ½c. higher.
Locust bean, powd.. bbls....lb. 1.25 Nom.
Mastic, cs.....lb. 5.00 Nom.
Myrrh, siftings, cs.....lb. .75 - .76
Olibanum, siftings, cs.....lb. .11½- .13
tears, cs.....lb. .18 - .35
Opium (see O).
Red (see Gum, yacca).
Rosin (see R).
Sandarac,[1] cs., ex dock, whse., lb. .97½- —
Scammony, cs.....lb. 1.30 - 1.35
Talha, bgs.....lb. .10 - .11
Tragacanth, No. 1, cs.....lb. 4.00 - 4.25
No. 2, cs.....lb. 3.75 - 4.00
No. 3, cs.....lb. 1.10 - 1.20
Yacca,[1] red gum, coarse, bgs., ex dock, whse..lb. .06 - —
powdered .....lb. .07½- —
Gypsum, Keene's cement, paper bgs., c.l., f.o.b. Acme, Tex., frt. equald..ton.22.65 - —
Harlem River, N. Y., frt. equald..ton.28.25 - —
Medicine Lodge, Kan., frt. equald..ton.17.00 - —
New Brighton, N. Y., frt. equald..ton.28.25 - —
Southard, Oklahoma, frt. equald..ton.17.00 - —
Sweetwater, Texas, frt. equald..ton.21.45 - —
Plaster of paris, paper bgs., f.o.b. Blue Rapids, Kans., frt. equald..ton.12.50 - —
Acme, Tex., frt. equald.ton.12.50 - —
Harlem River, N. Y., frt. equald..ton.13.00 - —
Medicine Lodge, Kans., frt. equald..ton.12.50 - —
New Brighton, N. Y., frt. equald..ton.13.00 - —
Southard, Oklahoma, frt. equald..ton 12.50 - —
Sweetwater, Texas, frt equald..ton.12.50 - —

Gypsum, stucco, paper bgs., c.l., f.o.b. Acme, Tex.; Akron, N.Y.; Blue Rapids, Kansas; Clarence Center, N.Y.; Fort Dodge, Ia.; Grand Rapids, Mich.; Gypsum Ohio; Harlem River, N.Y.; National City, Mich.; New Brighton, N. Y.; Plasterco, Ga.; Portsmouth, N. H.; Roton, Texas; Southard, Okla.; Sweetwater, Texas; frt. equald..ton. 8.00 - —
Saltville, Va.....ton. 9.00 - —
Terra alba, paper bgs., c.l., Harlem River, N. Y..ton.12.00 - —
New Brighton, N. Y.; Southard, Okla..ton.12.00 - —

H

Hawthorn berries, bgs.....lb. .55 - .60
Heliotropin, cryst., cns.....lb. 3.25 - 3.35
Hellebore, white, powd., bbls..lb. .46 - .47
Helonias root, bls.....lb. No stocks
Hematine, cryst., bbls., No. 1..lb. .34 - —
No. 2.....lb. .30 - —
No. 3.....lb. .28 - —
No. 4.....lb. .26 - —
No. 5.....lb. .24 - —
paste, bbls., No. 1.....lb. .14½- —
No. 2.....lb. .13½- —
No. 3.....lb. .12½- —
Hemlock bark extract,[1,6] 25% tan, c.l., bbls., works..lb. No stocks
tanks, works.....lb. No stocks
Hempseed, sterilized, bgs.....lb. .18 - .18½
Henbane leaves, bls.....lb. 1.35 - 1.75
Henna leaves, bls.....lb. .17 - .18
powd., bbls., bxs.....lb. .22 - .28
Heptane,[1] 56°-100° C, industrial grade, dms., c.l., Group 3..gal. .12½- —
l.c.l., Group 3.....gal. .19 - —
tankcars, Group 3.....gal. .10 - —
77°-115°, industrial, dms., c.l., Group 3..gal. .13 - —
l.c.l., Group 3.....gal. .19 - —
tankcars, Group 3.....gal. .10½- —
laboratory grade, dms., c.l., Group 3..lb. .16 - —
l.c.l., Group 3.....gal. .29 - —
10 gals., Group 3....gal. .55 - —
Hexaldehyde, normal, dms., c.l., works..lb. 1.10 - —
Hexalin (see Cyclohexanol).
Hexamethylenetetramine,[2,3] tech., dms., 1,500 lbs. up, Perth Amboy or N.Y.C..lb. .32 - —
150 to 1,350 lbs., same basis. lb. .33 - —
USP, dms., 500 lbs. or more, same basis..lb. .35 - —
fib. ctns., same basis.....lb. .40 - —
Hexane,[1] 60°-70°C., industrial grades, dms., c.l., Group 3, gal. .13½- —
l.c.l., Group 3.....gal. .19 - —
tankcars, Group 3.....gal. .10½- .11
laboratory grade, dms., c.l., Group 3..gal. .18 - —
l.c.l., Group 3.....gal. .29 - —
10 gals., Group 3.....gal. .55 - —
Hexanol, dms., l.c.l., works..lb. .35 - —
Homatropine hydrobromide, bots. oz.37.50 -42.00
Hoofmeal, 17-18% ammon., bulk, Chicago..unit. 4.25 - 4.50
Hops, NF, bls.....lb. .48 - 1.50
Horehound, bls.....lb. .10 - .12
Hydrangea root, bls.....lb. No prices
Hydrastine, bots.....oz.20.00 - —
Hydrochloride, bots.....oz.20.00 - —
Sulphate, bots.....oz.29.00 - —
Hydrastinine, 15 grs., bots..bot. 1.95 - —
Hydrastis (see Goldenseal).
Hydrofuramide, dms., fib. cns., works..lb. .30 - .40
Hydrogen peroxide, USP, bbls.lb. 100 vols., cbys., E. of Miss. River West Coast via Panama Canal..lb. .03¾- .04
Hydroquinone, bbls., dms.....lb. .90 - .94
Hydroxycitronellal, cns.....lb. 8.75 - 9.00
dms., extra, ret'able, divd..lb. 4.50 — —
Hyoscine hydrobromide, bots., gram. 4.50 - —
Hyoscyamine, bots.....oz.20.00 -37.50
Hydrobromide, bots.....oz.20.00 -37.50
Sulphate, bots.....oz.20.00 -37.50
Hypernic, cryst., bbls., No. 1..lb. .42 - —
No. 2.....lb. .34 - —
extract, bbls., No. 1.....lb. .24 - —
No. 2.....lb. .19 - —

I

Iceland moss, bls.....lb. 1.45 - 1.50
Ichthammol, N.F., bots.....lb. 4.30 - 4.35
Indian red (see Red, Indian).
Indigo, nat., chests.....lb. 2.14 - 2.20
synth., paste, bbls.....lb. .16½- .19
powd., bbls.....lb. .74½- .85
Indium metal.....oz.12.50 - —
Indol, CP, bots.....lb.26.50 -27.50
Insect flowers (see Pyrethrum).
Iodine, crude, 25-lb. jars.....lb. 1.67 - —
150-lb. kgs., less 5% ex whse., Staten Island..lb. 1.35 - 1.44
resubl., 5-lb. bots., jars.....lb. 2.00 - 2.10
Iodoform, 100-lb. dms., kgs...lb. 3.95 - 4.10
jars .....lb. 4.20 - —
Ipecac[4] root, bgs.....lb. No prices
powd., bgs.....lb. No prices
Irish moss, ordinary, bls.....lb. .26 - .28
powd., 80-90 mesh, bbls..lb. .32 - .33
prime bleached, bls.....lb. .38 - .50
powd. .....lb. .52 - .53
Iron acetate, liquor, bbls., c.l., divd..lb. .17 - —
l.c.l., divd.....lb. .18 - —
solut., USP IV, 100-lb. cbys., lb. .17 - —
50-lb. djns.....lb. .18 - —
Chloride (ferric), tech., anhydr., 390-lb. dms..100 lbs. 4.65 - 6.25
150-lb. dms.....100 lbs. 5.00 - 6.00
cryst., bbls., works, frt. alld. or equald..lb. .06 - .08
kegs, works, frt. alld. or equald..lb. .07½- .08
USP X, cryst., lump, bbls..lb. .07½- —
kegs .....lb. .08½- —
solut., cbys., works, frt. alld. or equald..lb. .06½- .07½
djns.....lb. .07½- —
Citrate, USP VIII, pearls....lb. .72 - .76
powd., cns.....lb. .84 - .87
scales .....lb. .77 - .80
Glycerophosphate, bbls. 1,000-lb. lots..lb. 3.30 - 3.39
100-lb. lots.....lb. 3.40 - 3.49
cns., 25 lbs.....lb. 3.52 - 3.62
Hyposulphite, bbls., dms....lb. 1.50 - 1.52
Iodide, bots.....lb. 3.18 - 3.52
syrup, cbys., bots.....lb. .53 - .59
cbys. .....lb. .39 - .40
Nitrate, red, tech., dms....lb. .03½- .04
Oxalate, pearls, cns.....lb. .82 - —
powd., cns.....lb. .52 - —
kgs .....lb. .47 - .49
Oxide, black (see Black iron oxide).
Phosphate, ferric, pearls, cns. lb. .54 - .57
scales, cns.....lb. .59 - .62
Iron, pyrophosphate, pearls, cns., lb. .59 - .62
scales, cns.....lb. .64 - .67
Reduced, 90%, kgs.....lb. .65 - .75
Sulphate, tech. (see Copperas and Ferric sulphate).
USP, cryst., bbls., dms...lb. .05½- .06
Iron-ammonia citrate, brown, green, gran., pearls..lb. .32 - .35
scales, dms.....lb. .49 - .52
Oxalate,[6] bbls.....lb. .23½- —
dms., kgs.....lb. .25½- —
Iron-soda oxalate, bbls., dms..lb. .23½- .26½
Isobutyl acetate,[6] dms., works.lb. .0860- —
tanks, works.....lb. .0760- —
Propionate, dms., works.....lb. .102 - —
Isopentane, dms., works.....gal. .45 - .55
Isophorone, dms., works.....lb. .35 - —
Isopropanol (see Alcohol, isopropyl).
Isopropyl acetate,[6] dms., c.l., E. of Rockies, frt. alld..lb. .11 - —
l.c.l., E. of Rockies, frt. alld..lb. .11½- .12
tanks, E. of Rockies, frt. alld., lb. .10 - —
Alcohol (see Alcohol).
Ether, dms., c.l.....lb. .06 - —
l.c.l. .....lb. .06½- —
tanks .....lb. .04½- —
Isopropylamine, dms., works...lb. .35 - —

J

Jaborandi leaves, bls.....lb. .09 - .10
Jalap root, NF, bls.....lb. .45 - .62
powd., bbls., bxs.....lb. .52 - .58
Resin, lump, cns.....lb. 5.55 - —
powd., bxs.....lb. 5.90 - —
Juniper berries, dom., bgs.....lb. .55 - .60
imp. (Juniperus communis), bgs..lb. .70 - —

K

Kamala, tins.....lb. .38 - .40
Kaolin (see China clay).
Kava kava root, bls.....lb. .22 - .24
Kerosene at refinery:—
Ark., 41-43 w.w., bulk, tanks, gal. .04¼- .04¾
Bayonne, 41-43 w.w., tank.. gal. .07¼ —
Gulf ports, 41-43 w.w., bulk.. gal. .04½- .04⅝
Okla.-Tex., 42-44 w.w., tanks, gal. .04½- .04⅝
Penn., 45 w.w., tanks...gal. .07 - .07¼
46 w.w., tanks.....gal. .07 - —
47 w.w., tanks.....gal. .07½- —
San Francisco, tanks.....gal. .11½- —
Kola nuts, bgs.....lb. .10 - .15

L

Lady slipper root, bls.....lb. .55 - .70
Lanolin (see Adeps lanae).
Lard,[1,8] city, trcs.....100 lbs.12.80 - —
Western, choice, trcs...100 lbs.13.80 - —
Larkspur seed, bgs.....lb. 3.75 - 4.00
Laurel berries, bls.....lb. .25 - .28
Leaves, Cyprus, bls.....lb. .27 - .28
Greek, bls.....lb. .39 - .40
Portuguese, bls.....lb. .15½- .16
Spanish .....lb. .30½- .31
Lavender flowers, medium, bls..lb. .80 - .85
ordinary, bls.....lb. .70 - .75
select, bls.....lb. .90 - .95
Lead,[1,2] (metal) (see paint market).
Acetate, white, broken, bbls..lb. .12½- —
cryst., bbls.....lb. .12½- —
gran., powd., bbls.....lb. .13¼- —
Arsenate,[1,2] paste, stand., cns., c.l..lb. .05¾- .06
l.c.l. .....lb. .06 - .06¼
powder, basic, 8-lb. bgs. or larger, c.l..lb. .11½- .12
l.c.l. .....lb. .12 - .13½
1-lb. ctns., c.l.....lb. .13½- .22½
l.c.l. .....lb. .19 - .23
standard, 3-lb. bgs. or larger, c.l..lb. .11 - .11½
l.c.l. .....lb. .11½- .12
1-lb. bgs., c.l.....lb. .16 - .20
l.c.l. .....lb. .16½- .20½
1-lb. ctns., c.l.....lb. .18 - .23
l.c.l. .....lb. .18½- .22½
½-lb. ctns., c.l.....lb. .21 - .25
l.c.l. .....lb. .21½- .25½

Inside column is maximum OPA prices for manufacturers or distributors; outside column for all other purchasers. Lead arsenate prices are works or whse. basis, frt. alld. to dest. in lots of 96 lbs. or over; no frt. or truck allowance for works or whse. pick-ups.

Blue, basic sulphate, bbls., c.l., divd. E..lb. .07½- —
divd. Ariz., Cal., Col., Idaho, Mont., Nev., N. M., Ore., Utah, Wash., Wyo..lb. .07¾- —
l.c.l., divd. E.....lb. .07¾- —
divd Ariz., Cal., Col., Idaho, Mont., Nev., N. M., Ore., Utah, Wash., Wyo..lb. .06 - —
Carbonate (see Lead, white).
Chloride, fib. dms.....lb. .49 - —
Iodide, NF V, powd., bots..lb. 2.80 - —
jars .....lb. 2.60 - —
Linoleate, pale, precip., bbls.lb. .22½- —
Metal (see quotations in market report).
Metallic paste, works.....lb. .19¾- .21¼
Nitrate, bbls.....lb. .12½- —
Oleate, bbls.....lb. .17¾- —
Peroxide, powd., tech., bbls..lb. .23 - —
Red, dry, 95% or less Pb_3O_4, bbls., c.l. (20 tons), divd. Ariz., Ark., Colo., Fla., Ga., Idaho, La., Miss., Mont., Nev., N. Mex., Okla., Tex., Utah, Wyo., and E. of Cascade Mts. in Ore. and Wash..lb. .09¼- —
Other points.....lb. .09 - —
l.c.l., 5 tons, divd. Ala., Ark., Cal., Fla., Ga., La., Miss., Okla., Tex., and W. Cascade Mts. in Ore. and Wash..lb. .09¾- —
Ariz., Idaho, Nev., Utah and E. of Cascade Mts. in Ore. and Wash..lb. .10¼- —
Colo., Mont., N. Mex., Wyo..lb. .10 - —
other points.....lb. .09½- —
smaller lots, Ala., etc. lb. .10¼- —
Ariz., etc.....lb. .10¾- —
Colo., etc.....lb. .10½- —
other points.....lb. .10 - —
97%, Pb_3O_4, bbls., c.l., divd. Ala., etc..lb. .09½- —
other points.....lb. .09¼- —
l.c.l., 5 tons, divd. Ala., etc..lb. .10 - —
Colo., etc.....lb. .10¼- —
Ariz. ,etc.....lb. .10½- —
other points.....lb. .09¾- —
smaller lots, divd. Ala., etc..lb. .10¾- —
Ariz., etc.....lb. .11 - —
Colo., etc.....lb. .10¾- —
other points.....lb. .10¼- —
Lead, red, dry, 98% Pb_3O_4, bbls., c.l. (20 tons), divd. Ala., etc., lb. .09¾- —
other points.....lb. .09½- —
l.c.l., 5 tons, divd. Ala., etc..lb. .10¼- —
Ariz., etc.....lb. .10¾- —
Colo., etc.....lb. .10½- —
other points.....lb. .10 - —
smaller lots, divd. Ala., etc..lb. .10¼- —
Ariz., etc.....lb. .11¼- —
Colo., etc.....lb. .11 - —
other points.....lb. .10½- —
in oil, 95% min., kgs.....lb. .14 - —
Resinate, fused, 15%, bbls., c.l., lb. .10 - .12
pale, bbls., c.l.....lb. .12 - .14
6%, bbls., c.l.....lb. .09½- .10½
l.c.l. .....lb. .10¾- —
Silicate, bgs.....lb. .0730- .0780
Stearate, bbls.....lb. .31 - .38
Sulphate (see Lead, white, basic sulphate).
Titanate, bgs., bbls., c.l., works, frt. alld..lb. .11 - —
l.c.l., 5 tons, one delivery, E., frt. alld..lb. .11½- —
Pac. Cst.. ex whse..lb. .11¼- —
smaller lots, E., frt. alld. lb. .11½- —
Pac. Cst., ex whse..lb. .11¾- —
White, basic carbonate, dry, bbls., c.l., divd. Ariz., Calif., Colo., Idaho, Mont., Nev., N. Mex., Ore., Utah, Wash., and Wyo..lb. .08½- —
other points.....lb. .08¾- —
l.c.l., divd. Ariz., etc.lb. .08¾- —
other points.....lb. .08½- —
basis sulphate, dry, bbls., c.l., divd. Ariz., etc..lb. .07½- —
other points.....lb. .07¼- —
l.c.l., divd. Ariz., etc..lb. .08 - —
other points.....lb. .07½- —
in oil, consumers, kgs...lb. .12¼- .12⅝
dealers, 100-lb. kg.....lb. .11¼- .11⅝
painters, 100-lb. kg.....lb. .12¼- .12⅝
Lecithin, edible, dms., c.l....lb. .28½- —
l.c.l. .....lb. .29 - .43
in cocoa butter, dms., c.l....lb. .40½- —
l.c.l. .....lb. .41 - .55
tech., dms. c.l.....lb. .26 - —
l.c.l .....lb. .26½- .31½
Lemon peel, bls.....lb. .35 - .46
Licorice extract, mass, cns....lb. .55 - .72
powd., bbls.....lb. .60 - .85
root, natural, Indian, bls....lb. .08 - .09
powder, bbls.....lb. .12 - .13
Russian, bls.....lb. .08½- .09
Spanish, bls.....lb. .12½- .13
Lignin extract, tanning grade, bgs., c.l., works..lb. .04 - —
Lime, chemical (quicklime), lump or pebble, bulk, f.o.b.:—
Adams, Mass.....ton. 8.00 - —
Annville, Pa.....ton. 7.50 - —
Bellefonte, Pa.....ton. 7.50 - —
Berkley, W. Va.....ton. 7.50 - —
Carey, Ohio.....ton. 7.00 - —
Cedar Hollow, Pa...ton. 8.50 - —
Crab Orchard, Tenn.ton. 6.25 - —
Eagle Mountain, Va.ton. 7.00 - —
Farnams, Mass.....ton. 8.00 - —
Gibsonburg, Ohio....ton. 7.00 - —
Hannibal, Mo.....ton. 6.50 - —
Keystone, Ala.....ton. 6.25 - —
Knoxville, Tenn.....ton. 6.25 - —
Limedale, Ark.....ton. 7.00 - —
Longview, Ala.....ton. 6.25 - —
Manistique, Mich....ton. 8.00 - —
Martinsburg, W. Va.ton. 7.50 - —
Menominee, Mich....ton. 8.00 - —
Mitchell, Ind.....ton. 6.50 - —
Newala, Ala.....ton. 6.25 - —
Rincon, Cal.....ton.13.00 - —
Ripplemead, Va.....ton. 7.00 - —
Riverton, Va.....ton. 7.00 - —
Rockland, Me.....ton. 8.00 - —
San Francisco, Cal..ton.13.00 - —
Scioto, Ohio.....ton. 6.50 - —
Springfield, Mo.....ton. 7.00 - —
Woodville, Ohio.....ton. 7.00 - —
York, Pa.....ton. 9.00 - —
hydrated, f.o.b. Adams, Mass., ton. 9.00 - —
Annville, Pa.....ton. 9.00 - —
Bellefonte, Pa.....ton. 9.00 - —
Berkley, W. Va.....ton. 9.00 - —
Buffalo, N. Y.....ton.10.00 - —
Carey, Ohio.....ton. 8.50 - —
Cedar Hollow, Pa...ton. 9.00 - —
Crab Orchard, Tenn.ton. 9.00 - —
Eagle Mountain, Va.ton. 8.50 - —
Farnams, Mass.....ton. 9.00 - —
Gibsonburg, Ohio....ton. 9.00 - —
Hannibal, Mo.....ton. 9.00 - —
Keystone, Ala.....ton. 9.00 - —
Knoxville, Tenn.....ton. 9.00 - —
Le Roy, Minn.....ton.10.00 - —
Lime Crest, N. J....ton. 8.50 - —
Limedale, Ark.....ton. 9.00 - —
Longview, Ala.....ton. 9.00 - —
Louisville, Ky.....ton.14.50 - —
Manistique, Mich....ton. 9.50 - —
Marblehead, Ohio....ton. 9.50 - —
Martinsburg, W. Va..ton. 9.00 - —
Mitchell, Ind.....ton. 9.00 - —
Newala, Ala.....ton. 9.00 - —
Potoskey, Mich.....ton. 9.00 - —
Port Island, Mich...ton. 9.00 - —
Rapid City, S. D.....ton.12.00 - —
Ripplemead, Va.....ton. 9.00 - —
Rockland, Me.....ton. 9.00 - —
San Francisco, Cal...ton.16.00 - —
Springfield, Mo.....ton. 9.00 - —
Woodville, Ohio.....ton. 9.00 - —
York, Pa.....ton. 9.00 - —
spray, paper bags, f.o.b.:—
Adams, Mass.....ton. 9.50 - —
Annville, Pa.....ton. 9.50 - —
Bellefonte, Pa.....ton. 9.50 - —
Carey, Ohio.....ton.11.00 - —
Farnams, Mass.....ton.10.00 - —
Gibsonburg, Ohio....ton.11.00 - —
Lime Crest, N. J....ton. 9.00 - —
Marblehead, Ohio....ton.11.00 - —
Rockland, Me.....ton.10.00 - —
Scioto, Ohio.....ton.10.00 - —
Woodville, Ohio.....ton.11.00 - —
York, Pa.....ton. 9.50 - —
Lime-ammonia nitrogen 20.5% N, bgs., works..ton.32.50 - —
Lime salts (see Calcium).
Linalool, cns.....lb. 7.00 -10.85
Linalyl acetate, cns.....lb. 4.50 -11.85
Linden flowers, bls.....lb. No stocks
Linseed meal,[1] 34%, bulk, c.l.ton.45.00 - —
32%, bulk, c.l.....ton.43.00 - —
Litharge, com'l powd., bbls., c.l., divd. Ala., Ariz., Ark., Colo., Fla., Ga., Idaho, La., Miss., Mont., Nev., N. Mex., Okla., Tex., Utah, Wyo. and E. of Cascade Mts. in Ore., and Wash..lb. .08¼- —
other points.....lb. .08 - —
l.c.l., 5 tons, divd. Ala., Ariz., Cal., Fla., Ga., La., Miss., Okla., Tex. and W. of Cascade Mts. in Ore. and Wash..lb. .08¾- —
Ariz., Idaho, Nev., Utah and E. of Cascade Mts. in Ore. and Wash..lb. .09¼- —
Colo., Mont., N. Mex., Wyo..lb. .09 - —
Other points.....lb. .08½- —

Litharge, com'l, powd., bbls., l.c.l., smaller lots, dlvd. Ala., etc.	lb.	.09¼-	—
Ariz., etc.	lb.	.09⅝-	—
Colo., etc.	lb.	.09⅛-	—
Other points	lb.	.09 -	—
Lithium,[9] bromide, bbls., 100 lbs., works., frt. equald.	lb.	1.90 -	—
smaller lots, works.	lb.	1.98 -	1.95
Carbonate, NF, 250-lb. bbls., kgs.	lb.	1.25 -	1.30
Chloride, jars	lb.	1.65 -	1.70
Citrate, bbls., dms., kgs.	lb.	1.40 -	1.45
Fluoride, bbls.	lb.	2.45 -	2.60
Hydroxide, jars	lb.	1.25 -	1.40
Iodide, 5-lb. bots.	lb.	5.20 -	—
25-lb. jars	lb.	5.05 -	—
Lithopone,[1] titanated (h i g h-strength), bgs., c.l.	lb.	.0560 -	—
smaller lots	lb.	.0585-	—
bbls., c.l.	lb.	.0585-	—
smaller lots	lb.	.0610-	—
ordinary, bgs., c.l. (20 tons).	lb.	.04⅝-	—
smaller lots	lb.	.04½-	—
bbls., c.l. (20 tons)	lb.	.04½-	—
smaller lots	lb.	.04⅝-	—
Lithopone, c.l., dlvd. Pac. Cst., ¼c. higher; l.c.l., ex whse, Pac. Cst., ½c. higher.			
Liverwort leaves, bls.	lb.	.60 -	—
Lobelia herb, bls.	lb.	.46 -	.55
Lobeline sulphate, bots., wks.	oz.	25.50 -	38.00
Logwood, cryst., No. 1, bbls.	lb.	.28 -	—
No. 2, bbls.	lb.	.26 -	—
extract, liquid, No. 1, bbls.	lb.	.14 -	—
No. 2, bbls.	lb.	.13 -	—
No. 3, bbls.	lb.	.12½-	—
No. 4, bbls.	lb.	.10 -	—
solid, No. 1, bxs.	lb.	.23½-	—
No. 2, bxs.	lb.	.21½-	—
Lovage root, dom., bls.	lb.	.45 -	.50
imported, bls.	lb.	4.50	Nom.
Lupulin, NF, tins	lb.	4.75	Nom.
Lycopodium, USP, cs.	lb.	6.60 -	7.00

M

Mace,[1] Amboyna, cs.	lb.	.77 -	.78
Banda, cs.	lb.	.98	Nom.
West Indian, bgs.	lb.	.65 -	.66
Madder, Dutch, bbls.	lb.	.24 -	.30
Magnesia, arsenate,[9,1] dms.	lb.	.153 -	.18
Calcined, tech., USP, bbls., works.	lb.	.26 -	—
Carbonate, tech., Zone 1, c.l., bgs.	lb.	.06¼-	—
bbls.	lb.	.07½-	—
kgs.	lb.	.08⅝-	—
l.c.l., bgs.	lb.	.07¼-	—
bbls.	lb.	.08½-	—
kgs.	lb.	.09⅝-	—
Zone 2, c.l., bgs.	lb.	.06¼-	—
bbls.	lb.	.07¼-	—
kgs.	lb.	.08⅝-	—
2, l.c.l., bgs.	lb.	.07 -	—
bbls.	lb.	.08¼-	—
kgs.	lb.	.09½-	—
USP, Zone 1, c.l., bgs.	lb.	.09 -	—
bbls.	lb.	.09½-	—
kgs.	lb.	.09⅝-	—
l.c.l., bgs.	lb.	.09 -	—
bbls.	lb.	.09½-	—
kgs.	lb.	.10⅝-	—
Zone 2, c.l., bgs.	lb.	.06¼-	—
bbls.	lb.	.08¼-	—
kgs.	lb.	.09⅝-	—
l.c.l., bgs.	lb.	.08⅝-	—
bbls.	lb.	.09¼-	—
kgs.	lb.	.10⅝-	—

Magnesia carbonate:—Zone 1—Conn., Del., D. of C., Md., Mass., N. J., N. Y., Pa., and R. I. Zone 2—Balance of U. S. Frt. alld. on c.l. shipt., equaled, with Ambler, N. Y., Philipsburg, Plymouth Meeting and Valley Forge. Freight allowed on l.c.l., incl. dlvd. storedoor.

Chloride, anhyd., bbls., dlvd.	lb.	.13 -	—
flake, bbls., c.l., works.	ton.	32.00 -	—
l.c.l., works.	ton.	39.00 -	42.00
Fluoride, bbls.	lb.	.40 -	.50
Hydroxide, med., bbls., dms., kgs.	lb.	.25 -	.30
Hypophosphite, cns.	lb.	1.45 -	—
Oxide (see Magnesia, calcined).			
Palmitate, bbls.	lb.	.33 -	.35
Peroxide, 15%, dms., works.	lb.	1.00 -	1.35
Phosphate, tribasic, USP, dms., lb.	lb.	.65 -	.67
kgs.	lb.	.62 -	—
Silicate (see Talc).			
Silicofluoride, bbls.	lb.	.18 -	.20
Stearate, bbls.	lb.	.31 -	.32
Sulphate (see Epsom salt).			
Trisilicate, dms., 1,000-lb. contracts	lb.	.27 -	—
smaller lots, dms.	lb.	.42 -	—
Magnesite, cal., powd., bgs., f.o.b. mines, Calif.	ton.	58.75 -	—
l.c.l., dlvd., N. Y.	ton.	84.00 -	90.00
dead-burned,[1] bulk, c.l., f.o.b. Chewelah, Wash.	ton.	22.00 -	32.00
Malva flowers, black, bls.	lb.	No stocks	
blue, bls.	lb.	No stocks	
Leaves, bls.	lb.	.40 -	.55
Manaca root, bls.	lb.	.24 -	.25
Mandrake root, bls.	lb.	.21 -	.22
Manganese acetate, dms.	lb.	.26½-	—
Arsenate,[6] bgs.	lb.	.12 -	.12¼
Borate, tech., bbls.	lb.	.15 -	.17
Carbonate, bbls.	lb.	.19 -	—
Chloride, bbls.	lb.	.14	Nom.
Dioxide, African, battery, 84-87%, bbls., 28-40 tons, works.	ton.	74.00 -	—
5-15 tons, works.	ton.	77.00 -	—
smaller lots, works.	ton.	82.00 -	—
Caucasian, 85-90%, bbls., c.l., works.	ton.	74.00 -	—
l.c.l., 5 tons, works.	ton.	77.00 -	—
smaller lots, works.	ton.	82.00 -	—
burlap bgs., c.l., works.	ton.	71.75 -	—
l.c.l., 5 tons, works.	ton.	74.75 -	—
smaller lots, works.	ton.	79.75 -	—
paper bgs., c.l., works.	ton.	70.00 -	—
l.c.l., 5 tons, works.	ton.	73.00 -	—
Glycerophosphate, bgs., bbls., 1,000-lb. lots.	lb.	3.05 -	—
100-lb. lots	lb.	3.15 -	—
cns., 25 lbs.	lb.	3.27 -	—
Hydrate, bbls., dlvd.	lb.	.82 -	—
Iodide, bots., 5 lbs.	lb.	5.70 -	—
jars, 25 lbs.	lb.	5.55 -	—
Linoleate, liquid, 4%, dms.	lb.	.20 -	—
solid, precip., 8.2%, bbls.	lb.	.22 -	—
Resinate, fused, 8½%, bbls.	lb.	.09 -	.10½
precip., dms.	lb.	.14½-	.15¼
Sulphate, anhyd., dms., works.	lb.	.11⅛-	.11¼
feed grade, 77-80%, bgs.	lb.	.05⅝-	.06¼
fertilizer, 66%, $MnSO_4$, bgs., c.l., dlvd. East.	ton.	59.50 -	—
l.c.l., bgs., same basis or f.o.b. Balto. and Cincinnati.	ton.	66.50 -	—
industrial grade, 80% $MnSO_4$, bgs.	lb.	.06 -	.06¼
Mangrove bark, if, and when, available, bgs., based on freight $19; insurance $2 per ton. Any difference for buyers account. Current freight $18.20; WSA insurance $3.75 per ton.	ton.	68.00 -	—
Manna flake, large, cs.	lb.	No stocks	
small, cs.	lb.	3.40 -	3.45
Mannitol,[5] com'l grade, bbls., works.	lb.	.35 -	.40
reagent grade, 50-lb. cs. or multiples, works.	lb.	.55 -	—

Manure, sheep, bgs., c.l., Midwest shipping points.	ton.	12.00 -	20.00
kiln-dried, bgs., c.l., f.o.b. Chicago.	ton.	15.00 -	25.00
Marjoram, Argentine, bls.	lb.	.42½-	.43
Calif., French type, bls.	lb.	.75 -	.76
Chilean, bls.	lb.	.39 -	.40
French, bls.	lb.	.84 -	1.15
Portuguese, wild, bls.	lb.	.34½-	.35
Tunisian, bls.	lb.	.60 -	.65
Matico leaves, bls.	lb.	.22 -	.29
Menthol, natural, cs.	lb.	14.50	Nom.
synthetic, USP, cs.	lb.	13.00 -	—
technical	lb.	6.00 -	6.50
Menthyl salicylate, tins.	lb.	8.00 -	8.10
Mercurial ointment, USP, mild, 10%, tubs.	lb.	.70 -	.72
30%, pails	lb.	1.44 -	1.46
50%, pails	lb.	2.09 -	2.11
Mercury (see Quicksilver).			
Ammoniated (see White precipitate).			
Bichloride,[2] (see Corrosive sublimate).			
Bisulphate,[2] bots.	lb.	3.02 -	—
flb. dms.	lb.	2.89 -	2.91
Chloride[2] (see Calomel).			
Cyanide,[2] cryst., powd.	lb.	4.00 -	4.05
Iodide,[2] red, NF, bots.	lb.	4.66 -	4.71
flb. dms., kgs.	lb.	4.60 -	—
yellow, bots.	lb.	4.76 -	4.81
flb. dms., kgs.	lb.	4.70 -	—
Nitrate ointment (see Citrine ointment).			
Oxide,[2] yellow, NF, VI, flb. dms.	lb.	3.89 -	—
tech. (see Yellow, mercury oxide).			
red,[2] NF (see Red, precipitate).			
tech. (see Red, mercury oxide).			
Mercury and chalk,[2] 5-lb. ctns.	lb.	1.93 -	1.98
dms.	lb.	1.86 -	1.88
Mesityl oxide, dms., c.l., dlvd.	lb.	.11⅛-	—
l.c.l., dlvd.	lb.	.12 -	—
tanks	lb.	.10½-	
Metal leaf, composition, 5½x5½ in.	pkg.	3.00 -	—
gold XX, deep, 23, 3⅜x3⅜ in., pkg.		15.00 -	—
silver, 3⅜x3⅜ in.	pkg.	3.00 -	—
Metanitroparatoluidine, bbls.	lb.	1.05 -	1.10
Metaphenylenediamine, kgs.	lb.	.65 -	—
Metatoluylenediamine, kgs.	lb.	.70 -	—
Methanol,[1,6] natural, all grades, dms., c.l., E. of Miss. R.	gal.	.63 -	.66
l.c.l., same basis	gal.	.73 -	.76
tanks, same basis	gal.	.60 -	—

Inside prices on natural methanol are drums extra; outside, drums included. Prices W. of Miss. R. 3c. higher.

synthetic,[8,9] dms., c.l., Zone 1, frt. alld.	gal.	.34½-	—
2, frt. alld. or dlvd.	gal.	.36½-	—
3, frt. alld.	gal.	.38½-	—
4, frt. alld.	gal.	.40½-	—
l.c.l., Zone 1, frt. alld. or dlvd.	gal.	.37 -	—
2, frt. alld.	gal.	.42½-	—
3, dlvd., S. P. and L. A.	gal.	.41 -	—
4, frt. alld. or dlvd.	gal.	.52½-	.56½
tanks, Zone 1, frt. alld.	gal.	.28 -	—
2, frt. alld.	gal.	.30 -	—
3, frt. alld.	gal.	.32 -	—
4, frt. alld.	gal.	.32½-	—

Synthetic methanol sales zones are:—Zone 1, Conn., Del., D. C., Ill., Ind., Iowa, Ky., Me., Md., Mass., Mich., Minn., Mo., N. H., N. J., N. Y., N. C., Ohio, Penn., R. I., S. C., Tenn., Vt., Va., W. Va., Wis.; Zone 2, Ala., Ark., Col., Fla., Ga., Kans., La., Miss., Neb., N. D., Okla., S. D., Tex., Wyo.; Zone 3, Los Angeles, Cal., San Francisco, Cal., also (c.l. only) Portland, Ore., and Seattle, Wash.; Zone 4, Ariz., Cal., Idaho, Mont., N. Mex., Nev., Ore., Utah, Wash.

Methyl acetate, CP, 97-99%, dms., c.l., E. of Miss.	lb.	.10¼-	.12
W. of Miss.	lb.	.11¾-	.13
l.c.l., E. of Miss.	lb.	.11 -	.14
W. of Miss.	lb.	.12 -	.13½
Methyl acetate, CP, 97-99%, dms., tanks, E. of Miss.	lb.	.09½-	—
W. of Miss.	lb.	.10½-	—
tech., dms., c.l., E. of Miss. lb.	lb.	.07 -	.09
W. of Miss.	lb.	.08 -	—
l.c.l., E. of Miss.	lb.	.07½-	.11
W. of Miss.	lb.	.08⅝-	.10½
tanks, E. of Miss.	lb.	.06 -	—
W. of Miss.	lb.	.07 -	—
Acetoacetate, dms., c.l., works, frt. alld.	lb.	.29½-	—
Acetone, natural, Group A, dms., c.l., E. of Miss., frt. alld.	gal.	.66 -	—
l.c.l., same basis	gal.	.76 -	—
tanks, same basis	gal.	.60 -	—

Natural methyl acetone quoted dms., included by group A. Prices W. of Miss. R., 3c. per gal. higher.

Group B, dms., c.l., Zone 1, frt. alld.	gal.	.63 -	—
Zone 2, same basis.	gal.	.65 -	—
Zone 3, same basis.	gal.	.67 -	—
Zone 4, same basis.	gal.	.69 -	—
dms., l.c.l., Zone 1, same basis.	gal.	.66 -	—
Zone 2, same basis.	gal.	.83 -	—
Zone 3, same basis.	gal.	.70 -	—
Zone 4, same basis.	gal.	.83 -	—
tanks, Zone 1, same basis.	gal.	.60 -	—
Zone 2, same basis.	gal.	.62 -	—
Zone 3, same basis.	gal.	.64 -	—
Zone 4, same basis.	gal.	.64½-	—

Natural methyl acetone quoted drums extra by Group B, sales Zones are:—Zone 1, Conn., Del., D. of C., Ill., Ind., Iowa, Ky., Me., Md., Mass., Mich., Minn., Mo., N. H., N. J., N. Y., N. C., Ohio, Pa., R. I., Tenn., Vt., Va., W. Va., Wisc.; Zone 2, Ala., Ark., Col., Fla., Ga., Kan., La., Miss., Neb., N. D., Okla., S. C., S. D., Tex., Wyo.; Zone 3, Los A., San Fran., Seattle, Wash., Portland, Ore.; Zone 4, Ariz., Cal., Idaho, Mont., N. Mex., Nev., Ore., Utah, Wash.

IT PAYS TO TALK TO THE

Bemis Multiwall Paper Bag Expert

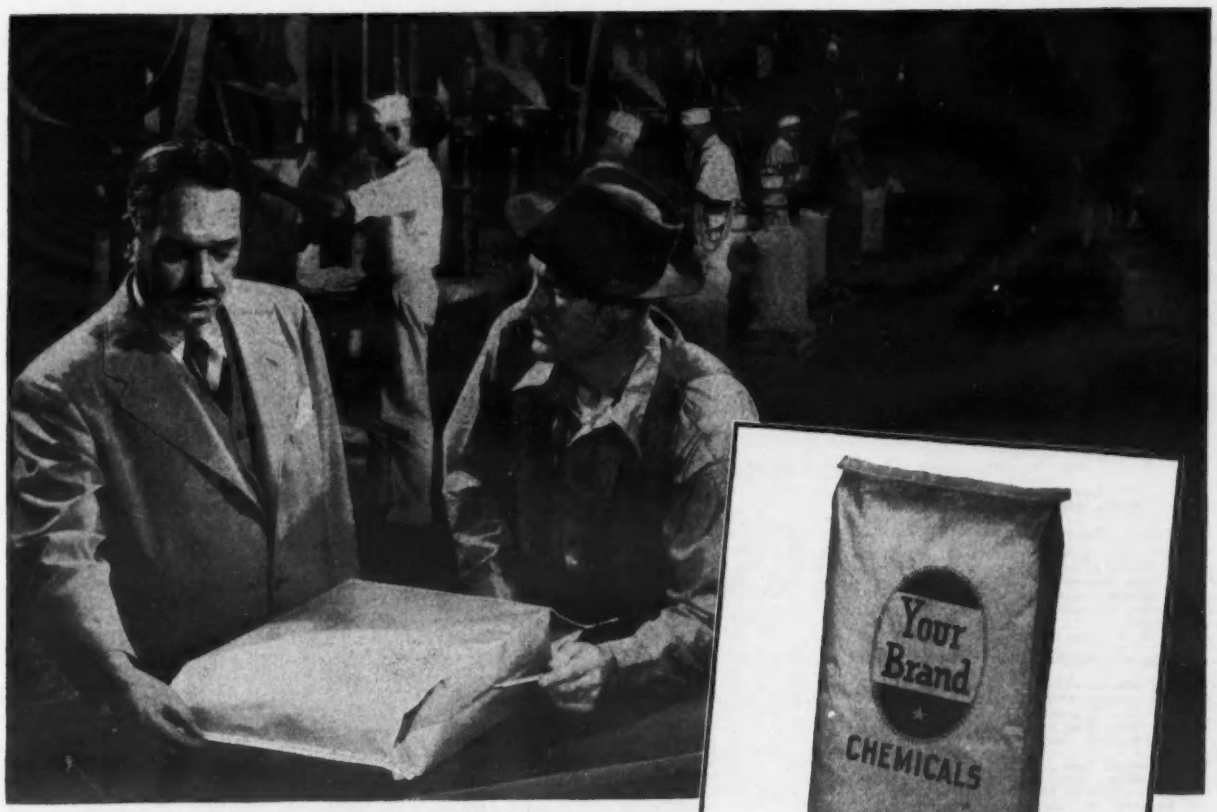
"You're more than just a bag expert. You're a detective!"

That's what a bag user said after one of our Multiwall Paper Bag experts visited his plant and solved a troublesome packaging problem which had been stealing his profits.

The counsel of our staff covers every phase of packaging by the bag . . . the bags themselves, filling and closing, shipping and storage. Our experts can give competent advice on these subjects because they *know* every angle of packing and shipping. Often they show manufacturers how to increase production and cut costs in the packing room.

Services of our experts are available to you without cost or obligation . . . whether you're a Bemis customer or not.

Next time you have a packaging problem, write or wire our nearest office. We'll have an expert on the job promptly . . . and it won't cost you a penny!



Bemis representatives are the kind of men who take off their coats and tackle a problem from a practical, experienced point of view.

CHEMICAL INDUSTRY CUTS COSTS AND REDUCES LOSSES WITH BEMIS MULTIWALL PAPER BAGS

Bemis Multiwall Paper Bags for chemicals are economical, one-trip containers that insulate against moisture, and thus reduce caking and loss of quality. Their extra strength maintains output by minimizing breakage on production lines. Bemis self-forming gussets speed filling and closing. Brilliant Bemis printing makes brands stand out.

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Better Bags for 85 Years

Peoria, Ill. • East Pepperell, Mass. • Mobile, Ala.
San Francisco, Calif. • Wilmington, Calif. • St. Helens, Oregon

Baltimore • Boston • Brooklyn
Buffalo • Charlotte • Chicago
Denver • Detroit • Houston
Indianapolis • Kansas City
Los Angeles • Louisville
Memphis • Minneapolis
New Orleans • New York City
Norfolk • Oklahoma City
Omaha • St. Louis • Salina • Salt Lake City • Seattle • Wichita

Methyl acetone, synthetic, dms., c.l., Zone 1..gal. .51 - —
Zone 2.....gal. .52 - —
Zone 3.....gal. .53½- —
Zone 4.....gal. .54½- —
l.c.l., Zone 1.....gal. .54½- —
Zone 2.....gal. .57 - —
Zone 3.....gal. .58 - —
Zone 4.....gal. .59½- —
tanks, Zone 1.....gal. .43 - —
Zone 2.....gal. .44½- —
Zone 3.....gal. .45½- —
Zone 4.....gal. .45½- —

Synthetic methyl acetone sales zones are:—Zone 1, Conn., Del., D. C., Ill., Ind., Iowa, Ky., Me., Md., Mass., Mich. Minn. Mo. N. H., N. J., N. Y., N. C., Ohio, Penn., R. I., S. C., Tenn., Vt., Va., W. Va., Wis.; Zone 2, Ala., Ark., Col., Fla., Ga., Kan., La., Miss., Neb., N. D., Okla., S. D., Tex., Wyo.; Zone 3, Los Angeles, Cal.; San Francisco, Cal.; also (c.l. only) Portland, Ore., and Seattle, Wash.; Zone 4, Ariz., Cal., N. Mex., Mont., Nev., Idaho, Ore., Utah, Wash.

Alcohol (see Methanol).
Anthranilate, 100-lb. lots.....lb. 2.20 - 2.50
25-lb. lots, bots.....lb. 2.25 - 2.65
Benzoate, cns.....lb. .70 - 1.10
Bromide, cns.....lb. .75 - .80
cyls.....lb. .65 - .75
Chloride, refrigeration, 500 lbs. and up machine mfrs. and jobbers, cylinders..lb. .32 - —
service men and consumers, cyl..lb. .36 - —
60 to 400 lbs., cyl., mach., mfrs. and jobbers..lb. .36 - —
service men and consumers, cyl..lb. .40 - —
tanks, multi-unit, machine mfrs. and jobbers..lb. .31 - —
service men and consumers, lb. .35 - —

Methyl chloride quotations are spot or contract, ship., point. Prices above are in 60, 90 and 180-lb. cylinders. Prices on the 20-lb. cylinders, uniformly 10c. per pound higher.

Cinnamate, cns.....lb. 1.50 - 4.00
Formate, dms.....lb. .60 -
Lactate, dms., l.c.l., divd...lb. .70 - —
Iodide, bots.....lb. 4.00 - 4.15
Salicylate,[1] 500-lb. dms.....lb. .35 - —
25-50 lbs.....lb. .37 - .38
Methylamyl ketone, dms., cns., works..lb. .26 - .28
Methylcellulose, specl, vis. (4,000 cps.), fib. ctns., 2,000 lbs. or more, frt. alld..lb. .60 - —
100 to 1,999 lbs., frt. alld..lb. .65 - —
1 to 99 lbs., works.....lb. .70 - —
standard vis. (15-1,500 cps.), fib. ctns., 2,000 lbs. or more, frt. alld..lb. .53 - —
100 to 1,999 lbs., frt. alld. lb. .56 - —
1 to 99 lbs., works.....lb. .63 - —
Methylcyclohexane, 98-100%, dms., works..lb. .16 - —
Methylcyclohexanol, 98-100%, dms., works..lb. .28 - —
Methylcyclohexanone, 98-100%, dms., works..lb. No stocks
Methylene blue, medicinal, kgs., 100 lbs..lb. 2.00 - —
cns., 5 lbs.....lb. 2.35 - —
Chloride, refrig., dms., works. lb. .18 - .22
solvent, dms., works.....lb. .13 - .15
Methylethyl ketone,[2] dms., E. of Rocky Mts..lb. .09 - —
l.c.l., same basis.....lb. .09½- —
tanks, same basis.....lb. .08 - —
Methylhexyl ketone, tms., tech., works..lb. .60 - —
Methylisobutyl ketone,[3] dms., c.l., divd..lb. .12½- —
l.c.l., divd.....lb. .13 - —
tanks, divd.....lb. .11½- —
Methylnaphthyl ketone, cryst., cns..lb. 3.00 - 3.10
Mica, dry grd.,[1] roofing, white, 20 mesh, bgs., c.l., f.o.b. works..ton.27.50 - —
l.c.l.....ton.32.50 - —
30-31 mesh, bgs., c.l...lb.27.50 - —
l.c.l.....ton.32.50 - —
40-45 mesh, bgs., c.l....lb.27.50 - —
l.c.l.....ton.32.50 - —
80 mesh, bgs., c.l.....lb.35.00 - —
l.c.l.....ton.38.00 - —
paint, plastic, 100 mesh, c.l., bgs..ton.40.00 - —
l.c.l.....ton.43.50 - —
wet grd.,[1] biotite, c.l., bgs..lb. .03¾- —
l.c.l.....lb. .04¼- —
white, 1,000 mesh, bgs., c.l., lb. .03¾- —
paint or lacq., c.l., bgs....lb. .04¾- —
l.c.l.....lb. .05¼- —
paper, bgs., c.l.....lb. .04¾- —
l.c.l.....lb. .05¼- —
rubber, c.l., bgs.....lb. .04½- —
l.c.l.....lb. .05 - —

Mica, dry grd., quoted works; wet grd. and 1,000-mesh mica in carload lots is net, alld. E.; less carload lots ex whse. or frt. alld. E. Prices of the wet grd. are ½c. per lb. higher W. of Miss. R. and 1c. per lb. higher W. of Rockies.

Milk powder, skimmed,[1] roller, Zone A, bbls., bulk. lb. .12½- —
Zone B.....lb. .12¾- —
spray, bbls., bulk, Zone A. lb. .14½- —
Zone B, same basis.lb. .14¾- —

Milk powder, skimmed, when sold by manufacturers to the U. S. Government or any agency thereof, lc. less than prices on skimmed milk powder. Zone A, all States not included in Zone B. Zone B, Conn., Del., D. C., Mass., Md., Me., N. J., N. H., N. Y., Pa., R. I., and Vt.

Milk powder, whole, roller, bbls., lb. .35 - —
spray, bbls.....lb. .36
Milk sugar, bbls., c.l.....lb. .25 - —
l.c.l., 10 bbls. or over.....lb. .26 - —
less than 10 bbls.....lb. .27 - —
Millet seed, early fortune, bgs., lb. .04 - .04½
hulled, bgs.....lb. .07 - .12
yellow, bgs.....lb. .04 - .04½
Mineral spirits (see Petroleum, mineral spirits).
Molasses,[1,5] blackstrap, tanks, f.o.b. works, Area 1..gal. .18 - —
Area 2, same basis....gal. .18½- —
Area 3, same basis....ton.20.00 - —
Area 4, same basis....ton.24.20 - —
Area 5, same basis....ton.33.20 - —

Note—Area No. 1, Fla., Ga., La., Tex. Area No. 2, Mass., Md., N. J., N. Y. Area No. 3, Calif., Wash., Ore.; Area No. 4, Colo., Idaho, Kan., Mont., Neb. (excluding Grand Island area), S. D., Utah, Wyo.; Area No. 5, Grand Island, Neb., Ia., Ind., Mich., Minn., Ohio, Wis.

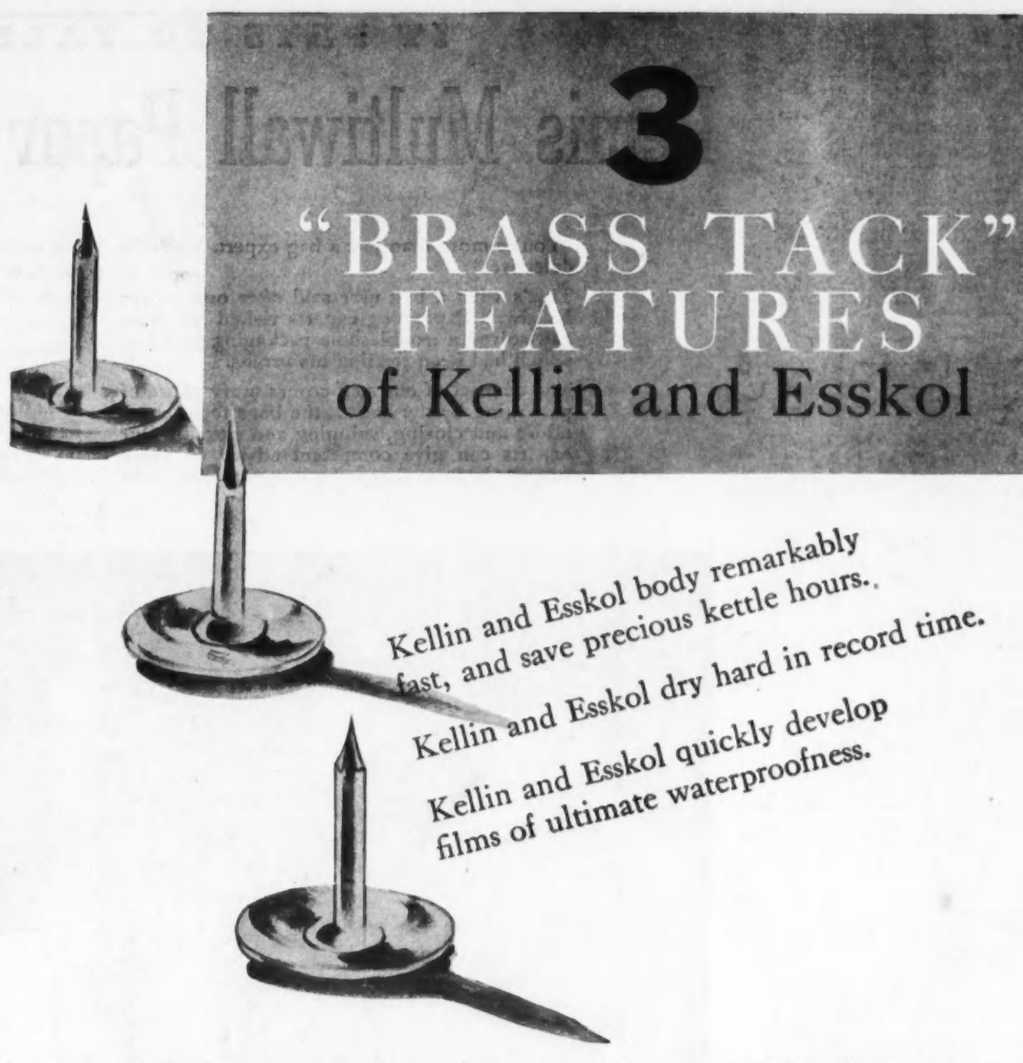
Molybdate orange (see Orange, molybdate).
Molybdenum metal,[6] kgs., 99% powd..lb. 2.60 - 3.00
Trioxide,[6] pure, kgs., basis Mo. content, works..lb. .95 - —
technical, kgs, works.....lb. .80 - —
Monoamylamine, dms., basis 100%, c.l., works..lb. .61 - —
l.c.l., works.....lb. .64 - —
Monoamylnaphthalene, l.c.l., dms., works..lb. .17 - —
Monobutylamine, dms., basis 100%, c.l., works..lb. .48 - —
l.c.l., works.....lb. .51 - —
Monochlorobensene, dms., c.l..lb. .05½- —
l.c.l.....lb. .07 - .09
tanks .....lb. .05 - —
Monoethanolamine,[6] dms., c.l., works..lb. .24 - —
l.c.l., dms.....lb. .25 - —
tanks .....lb. .23 - —
Monoethylamine, basis 100%, dms., c.l., works..lb. .43 - —
l.c.l., works.....lb. .46 - —
Monoethylaniliin, dms.....lb. .47 - —
Monomethyl para-aminophenol-sulphate, dms..lb. 3.75 - 4.00
Monomethylamine, dms. .....lb. .65 - —
Monosodium phosphate (see Soda phosphate, monobasic).
Morphine, bots., 5 ozs.....oz.11.10 - —
cns., 25 ozs.....oz.10.90 - —
Acetate, bots., 5 ozs.....oz. 9.00 - —
cns., 25 ozs.....oz. 8.80 - —
Hydrobromide, 5 ozs.....oz. 8.95 - —
cns., 25 ozs.....oz. 8.75 - —
Hydrochloride, 5-oz. bots....oz. 9.00 - —
cns., 25 ozs.....oz. 8.80 - —
Sulphate, bots., 5 ozs.....oz. 9.00 - —
cns., 25 ozs.....oz. 8.80 - —
Morpholine, dms., 55 gals., l.c.l., works..lb. .67 - —
smaller containers, works....lb. .75 - —
Mullein leaves, cns.....lb. .12 - .13
flowers, cns.....lb. 1.75 - 2.10
Musk, nat., Tonquin, grains, bots. oz.40.00 -45.00
synth., ambrette, cns., 100 lbs. or more..lb. 4.00 - 9.00
25 lbs. to 75 lbs.....lb. 4.10 - 9.10
5 lbs.....lb. 4.25 - 9.45
Musk, synth, ketone, cns., 100 lbs. or more..lb. 4.15 - 9.25
25 lbs. to 75 lbs.....lb. 4.25 - 9.35
5 lbs.....lb. 4.40 - 9.70
xylol, cns., 100 lbs. or more..lb. 1.40 - 2.50
25 lbs. to 75 lbs.....lb. 1.50 - 2.60
5 lbs.....lb. 1.65 - 2.80
Musk root, bls.....lb. 2.25 - 2.30
Mustard seed, Calif., brown, bgs., lb. .20 - .20½
Montana, brown, bgs.....lb. .11½- .12
yellow, bgs.....lb. .11½- .12
Washington, yellow, bgs....lb. .12 - .12½
Myrobalans,[4] fl. bgs., f.a.s., based on freight $25; insurance $2 per ton. Any difference for buyers account. Current freight $27; WSA insurance $4.50 per ton.. ton.75.00 - —
J2, bags, f.a.s., same basis, ton.68.00 - —

N

Naphtha, painters (see Petroleum naphtha, V. M. & P.).
Solvent (see S).
Naphthalene, crude,[2,6] dom., 74°, bgs., c.l., frt. equald..lb. .03 - —
bbls., c.l., same basis..lb. .031 - —
tanks, same basis.....lb. .0275- —
78°, bgs., c.l., same basis, lb. .0325- —
bbls., c.l., same basis....lb. .0335- —
tanks, same basis.....lb. .03 - —
refined, balls, flakes, bbls., wholesalers and jobbers, works..lb. .08 - —
50-lb. cs., same basis....lb. .08¼- —
1-lb. pkgs., same basis...lb. .08¾- —
Neocinchophen, USP, dms ....lb. 7.00 - 7.10
Nepheline syenite, glass grade, 20 mesh, bulk, Rochester, N. Y..ton.12.00 - —
pottery grade, 200 mesh, bulk, Rochester, N. Y..ton.15.50 - —
Nepheline synite in bgs. is priced $2 per t above the bulk quotations.
Nerolin, cryst., cns.....lb. 1.70 - 2.00
Niacin (see Acid, nicotinic).
Nickel,[6] carbonate, bbls.....lb. .36 - .3
Chloride,[6] bbls.....lb. .18 - .2
Cyanide,[6] bots., dms.....lb. 1.40 - 1.5
Oxide,[6] black, bbls.....lb. .35 - .3
Salt,[6] bbls.....lb. .13 - .1
Nicotine,[5] sulphate, 40%, dms., 50 lbs..lb. .7980- —
tins, 10 lbs.....lb. .90 - —
Nicotinamide,[6] dms.....kilo.13.25 -13.9
Niger seed, bgs.....lb. .15½- .16
Nikethamide, bots., cbys.....lb.18.00 -19.00
Nitercake, bulk, works.....ton.16.00 -
Nitrobenzene, dbl. dist., dms., c.l. lb. .08 - —
l.c.l.....lb. .09 - —
tanks .....lb. .07 - —
Nitrocellulose, ester-soluble, 30-35, ¼, ½ sec., bbls., dry weight, l.c.l., works..lb. .26 - —
5-6, 15-20 sec. and higher, bbls., dry weight, l.c.l., works..lb. .25 - —
spirit-soluble, ¼, ½, 5-7, 40-60 sec., same basis..lb. .28 - —

Nitrocellulose:—Denatured alcohol used in manufacture is charged extra. Barrels are to be paid for extra, but are returnable.

Nitroethane, dms., l.c.l., wks.lb. .25 - —
Nitrogen solut., tanks, works, ports..ton N.121.58 - —
Nitrogenous process tankage, bulk, producing plant.....unit-ton, 3.15 + .40- 3.50 + .
sewage sludge, bulk, producing plant..unit-ton. 2.60 + .40- 3.00 + .


3
"BRASS TACK"
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Kellin and Esskol body remarkably fast, and save precious kettle hours.
Kellin and Esskol dry hard in record time.
Kellin and Esskol quickly develop films of ultimate waterproofness.

Kellin and Esskol are two outstanding products of Spencer Kellogg Research, whose availability is certainly the essence of timeliness. Made from *domestic* raw materials, they are being used in volume, in place of chinawood oil and dehydrated castor oil, in specification finishes and for a number of civilian purposes.

A Spencer Kellogg representative would give you the details of these and other fe of Kellin and Esskol.

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Nitromethane, dms., l.c.l., works. lb. .25 - —
Nitronaphthalene, bbls. lb. .24 - .34
Nitropropane I, dms., works. lb. .25 - —
II, dms., same basis. lb. .25 - —
Nutgalls, Aleppo, bgs. lb. .44 - .45
Chinese lb. .39 - .40
Nutmegs,[1] E. I., 80's, bgs. lb. .75 Nom.
West Indian, bgs. lb. .56½ Nom.
Nux vomica, bls. lb. .09 - .11
powd., bbls., bxs. lb. .12 - .13

O

Oakbark extract,[1,6] 25% tan., bbls., c.l., works. lb. No stocks
tanks lb. No stocks
Ocher (see Yellow)
Octane,[1] 100-140° C., industrial grade, dms., c.l., G.S. gal. .15½- —
l.c.l., G.S. gal. .29 - —
10 gals., G.S. gal. .65 - —
tanks, G.S. gal. .13 - —
Octanol, normal,[6] tech., 360-lb. dms., dlvd. lb. .85 - —
Oil, almond, bitter, artl. (see Benzaldehyde)
natural, USP, bots. lb. 3.50 - 6.00
sweet, exp., dms., cns. lb. 1.85 - 2.50
Angelica root, bots. lb. No stocks
Seed, bots. lb. No stocks
Anilin (see A).
Anise, USP, cns., dms. lb. 3.50 - 3.80
Apricot kernel, cns. lb. .45 - .70
Avocado, cns., dms. lb. .80 - .95
Babassu,[1,6] tanks. lb. .1110- —
Bay, W. I., 50-55%, cns. lb. 1.45 - 1.90
Puerto Rican, 55-60%, cns. lb. 1.60 - 2.00
Bergamot, artif., cns. lb. 2.25 - 2.35
natural, Italian, coppers. lb. 25.00 Nom.
Brazilian, cns. lb. 10.00 -10.25
Birch (see Oil, sweet birch).
Birchtar, crude. lb. 2.00 - 2.25
rectified, cns. lb. 3.00 - 3.25
Bois de Rose, Brazil, cns. lb. 4.75 - 5.50
Mexican (see Lignaloe wood).
Bone, dms., works. gal. .65 - .70
Cade, USP IX (see Oil, juniper tar).
Cajeput, tech., dms. lb. 1.40 - 2.10
redistilled, USP X, cns. lb. 2.00 - 2.10
Calamus, cns. lb. 22.50 -23.00
Camphor, sassafrasay, cns. lb. No stocks
white, cns. lb. No stocks
Cananga, native, cns. lb. 8.50 -11.00
rectified, cns. lb. 10.25 -12.00
Capsicum (oleoresin), USP VII, cns. lb. 4.00 - 5.50
Caraway, USP, cns. lb. 17.50 -25.00
Cardamom, bots. lb. 24 00 -28.00
Cassia, USP, cns. lb. No stocks
Castor,[1,6] blown, dms., returnable, c.l. lb. .15½- —
l.c.l. lb. .16 - —
cold pressed, USP, bbls., c.l. lb. .14 - —
l.c.l. lb. .14½- —
cns. lb. .15½- .17½
dms., returnable, c.l. lb. .13½- —
l.c.l. lb. .14½- —
tanks lb. .13 - —
l.c.l. lb. .1900- —
tanks lb. .1710- —
No. 3, tech., bbls., c.l. lb. .13½- —
l.c.l. lb. .14½- —
dms., returnable, c.l. lb. .12½- —
l.c.l. lb. .14½- —
tanks lb. .12½- —
sulphonated, 50% (49% fat), dms., c.l. lb. .10 - —
l.c.l. lb. .11 - —
75% (68% fat), dms., c.l. lb. .12½- —
l.c.l. lb. .13½- —
80% (68% fat), dms., c.l. lb. .13½- —
l.c.l. lb. .14½- —
Cedarleaf, USP, cns., dms. lb. 1.55 - 1.75
technical, cns., dms. lb. 1.05 - 1.10
Cedarwood, Southern, dms. lb. .55 - .70
Celery, bots. lb. 24.00 -26.00
Chaulmoorga, USP, cns. lb. .08½- —
Chinawood (see Oil, tung).
Cinnamon bark oil, bots. lb. 35.00 -40.00
leaf oil, dms. lb. 1.25 - 1.65
Citronella, Ceylon, cns. lb. .95 - 1.00
Java, cns. lb. 2.50 Nom.
Clove makers, USP, cns. lb. 1.65 - 1.75
Coconut,[1,2] Manila, crude, bulk, c.l.f., N. Y. lb. .0835- —
edible, ex tax, dms. lb. .0965- —
Cod, Newfoundland, dms. gal. .90 - —
Cpdliver,[6] med., USP, 20-gal. bbls. or dms. bbl. 80.00 -88.00
Coriander, bots. lb. 24.00 -25.00
Corn,[1,6] crude, tanks, works. lb. .12%- —
refd., bbls. lb. .15½ Nom.
Cottonseed,[6] cooking, bbls. lb. .16¾- —
salad, bbls. lb. .17 - —
Creosote (see C).
Croton, NF, cns. lb. 3.00 - 4.00
Cubeb, USP, cns. lb. 6.00 - —
Crude (see Petroleum, crude).
Cumin, bots. lb. 8.00 -10.00
Cypress, bots. lb. 12.00 - —
Degras (see D).
Dillseed, bots. lb. 6.25 - 8.00
weed, bots. lb. 5.00 - 5.25
Dip (see D).
Erigeron, cns. lb. 2.10 - 2.25
Eucalyptus, 70-75%, cns. lb. 1.00 - 1.10
80-90%, cns. lb. 1.05 - 1.15
Fennel, sweet, cns. lb. 3.00 - 3.25
Fir, Canada, cns. lb. 2.00 - 3.00
Fishliver,[1,6] dms., 6,000 to under 60,000 units per gram—per million units. .14 - —
60,000 or under 200,000 units per gram—per million units. .20 - —
200,000 to more units per gram—per million units. .25 - —
Fuel (see Petroleum, fuel oil).
Gaultheria (see Oil, wintergreen leaf)
Geranium, Algerian, cns. lb. 11.50 -16.50
Bourbon, cns. lb. 13.00 -15.00
Russian, cns. lb. 17.00 -18.00
Turkish (see Oil, palmarosa).
Grapefruit, cns. lb. 1.95 - 2.25
Ginger, dist., bots. lb. 20.00 - —
Hemlock, cns. lb. 1.10 - 1.40
Juniper berry, cns. lb. 9.00 -16.00
wood, tech., cns. lb. 1.00 - 1.25
Juniper tar, USP, dms. lb. 1.00 - 1.50
Lard,[6] common, 1 bbls. lb. .14 - —
extra, No. 1, bbls. lb. .41½- —
winter, strained, bbls. lb. .15 - —
prime, burning, bbls. lb. .16 - —
fined., bbls. lb. .15½- —
Laurel, bots. lb. 5.00 Nom.
Lavandin, cns., 25 lbs. lb. 5.75 - 7.00
Lavender flower, French., cns., lb. 7.50 -10.00
Russian, cns. lb. 8.25 - 8.75
garden, cns. lb. .55 - .75
spike, Spanish, pure, cns. lb. 3.50 - 4.00
tech., cns. lb. 2.75 - 3.00
Lemon, Calif., cns. lb. 3.25 - —
Messina, coppers, cns. lb. No stocks
Terpeneless lb. 25.00 -50.00
Lemongrass, cns., dms. lb. 1.00 - 1.30
Lignaloe wood, Brazilian (see Bois de rose).
Mexican, seed, cns. lb. 2.50 - 2.75
wood, cns. lb. 2.75 - 4.00
Lime, dist., Jamaica, cns. lb. 9.00 -11.50
Mexican, cns. lb. 6.00 - 6.25
expressed, Jamaica, cns. lb. 11.00 -13.50

Oil, linseed,[1] raw, dms., c.l. lb. .1530- —
10 or more lb. .1550- —
5 to 9 lb. .1590- —
1 to 4 lb. .1610- —
tankcar lb. .1490- —
tankwagon lb. .1510- —
Boiled linseed oil, .004 over raw.
Linseed replacement, dms. gal. 1.15 - 1.23
tankcar gal. 1.12 - —
Lubricatin,[1] at refinery, ex tax, California, neutrals, pale, 200-800 vis., 2¼-4, tanks, gal. .07¼- .11
red, 200-900 vis., 4-6½ plus, tanks. gal. .07¼- .11¼
Group 3, bright stock, 150-160 vis., 0-25 pour, tanks, gal. .22½- .23
300 vis., No. 3 col., 0-10 pour, tanks. gal. .14½- .18
200-280 vis., No. 3 col., 15-25 pour, tanks. gal. .15 - .17½
140-150 vis., No. 8 color, 10-25 pour, tanks. gal. .24 - .30
cylinder oils, 600-650 flash, tanks. gal. .16 - .17
600-650 steam ref'd, tanks. gal. .15 - .15¼
neutral, 70° F., No. 8 color, 150 vis., 0-25 pour, tanks. gal. .26 - —
200 vis., 0-25 pour, tanks. gal. .28 - —
Mace, dist., cns., dms. lb. 6.00 Nom.
Mandarin, Brazilian, cns. lb. 6.75 - 9.00
Italian, coppers. lb. 11.50 -15.00
Menhaden,[1,5] crude, tanks, Balto. lb. .0890- —
ref'd, alkali, dms. lb. .1405- .140?
kettle-bodied, dms. lb. .1505- .1507
light-pressed, dms. lb. .1305- .1307
tanks lb. .1225- —
Mineral, white (see Oil, white mineral).
Mustard, artif., USP, cns. lb. 1.60 - 1.70

Oil, mustardseed,[5] exp., dms. lb. .14¾- —
Neatsfoot,[4] 15°, c.l., bbls. gal. 1.90 - —
20°, c.l., bbls. gal. 1.80 - —
30°, c.l., bbls. gal. 1.60 - —
pure, French, bbls. lb. .18¼ Nom.
Neroli, bots. lb. 275.00 -375.00
Haitian, dms. lb. 240.00 - —
Nutmeg, dist., cns., dms. lb. 6.00 Nom.
Oiticica,[1,6] liquid, dms. lb. .25 - —
solid, dms. lb. .23 - —
Oleo,[5] 1, bbls. lb. .13¾ Nom.
Olibanum, bots. lb. 4.50 - 5.00
Olive,[1,5] denat., dms. gal. 4.10 - 4.20
edible, Calif., dms. gal. 4.50 - 4.90
imported, dms. gal. 5.21 - 5.51
foots, dms. lb. No prices
sulphonated, 50% (40% fat), dms., c.l. lb. No prices
l.c.l. lb. No prices
35% (68% fat), dms., c.l. lb. No prices
l.c.l. lb. No prices
80% (68% fat), dms., c.l. lb. No prices
l.c.l. lb. No prices
Orange, sweet, dist., cs. lb. .75 - —
expressed, Brazilian, cns. lb. 1.15 - 1.40
Calif., cns. lb. 1.00 - 1.50
Florida, cns., dms. lb. .75 - 1.20
Messina, USP, coppers. lb. No stocks
West Indian, cns. lb. 4.50 - 5.00
sesquiterpeneless, bots. lb. 195.00 - —
Origanum, Spanish, cs. lb. 2.75 - 3.25
Palm,[1,5] Niger, bulk, c.l.f. N.Y., lb. .0825- —
Palmarosa, cns. lb. 4.85 - 6.25
Paraffin,[1] 300° flash, 100-110 vis., tanks, G.S. gal. .05¾- —
320° flash, 60-75 vis., tanks, same basis. lb. .05¼- —
350 flash, 70-80 a 100 vis., 0/10 pour. gal. .08 - —
80-85 vis., 0/10 pour, bbls., extra, Ind. refy. gal. .12 - —

Oil, paraffin, 350 flash, 100-100 vis., 0/10 pour, same basis. gal. .08½- —
10/25 pour, same basis. gal. .08¼- —
100-105 vis., 0/10 pour, same basis. gal. .14 - —
Patchouli, cns. lb. 6.00 - 9.50
Peanut,[1,5] crude, tanks, mill. lb. .18 - —
refd., edible, dms. lb. .16½ Nom.
Pennyroyal, dom., cns. lb. 2.95 Nom.
import, cns. lb. 3.00 - 3.25
Peppermint, natural, dms. lb. 6.00 Nom.
redist., USP, cns., dms. lb. 6.35 Nom.
Perilla,[1,6] crude, dms. lb. .2450- —
Petitgrain, Haitian, shipt, dms., lb. 2.25 - —
Paraguay, cns., dms. lb. 1.40 - 1.95
Pimento, berry, cns. lb. 8.00 - 9.75
Leaf, cns. lb. 4.75 - 5.25
Pine, tanks, works. gal. .55 - —
Pineneedle, cns. lb. 3.00 - 3.25
Putty,[2] bbls., E. Segundo, Richmond, Cal. gal. .22½- —
contracts gal. .19¼- —
dms., c.l., Whiting Ind. gal. *.54 - —
Boston, Providence. gal. .25 - —
l.c.l., same basis. gal. .27 - —
tanks, same basis. gal. 18 - —
Martinez, Cal. gal. .23 - —
* Extra for bbls. but subject to quantity discounts, ranging from 2c. to 5c. per gallon, according to amount purchased.
Rapeseed,[1,5] denat., bulk, c.l.f. N. Y. lb. .1150- —
Red,[5] dms., dlvd. lb. .13¼- .14¼
tanks, dlvd. lb. .12½- —
Rose, natural, coppers. oz. 15.00 -35.00
Rosemary, Spanish, cns., dms. lb. 1.50 - 2.00
Rosin, 1st rectified, dms. gal. .60 - —
2d rectified, dms. gal. .62 - —
3d rectified, dms. gal. .66 - —
Rue, bots. lb. 8.25 -10.00
Sage, Spanish, cns. lb. 4.00 - 5.00
Sandalwood, NF, dist., cns. lb. 5.75 - 6.00
Mysore, cns., case lots. lb. 7.00 - 7.25

CYCLAMAL

The Accepted Basis For Floral Perfumes

(Lily of the Valley, Lilac, etc.)

A single chemical having properties most desired by perfumers.

Great Strength

(5 times stronger than Hydroxy Citronellal with which it blends well.) Result: Economy.

PERSISTENT IN ODOR • • • • FREEDOM FROM DISCOLORATION
FREEDOM FROM IRRITATION • • • CYCLAMAL IS OF 100% PURITY
Manufactured in the U. S. A.

AMERICAN DISTILLED OILS

Bring you the
Fragrance of the Pine Forest

Pure Oils Distilled Especially for us.

OIL OF WHITE CEDAR
OIL OF CEDAR LEAF AMERICAN PURE
Exceptionally Fine Quality
OIL OF BALSAM FIR AMERICAN
OIL OF PINE NEEDLES AMERICAN
OIL OF JUNIPER LEAVES AMERICAN
(*Juniperus Cummunis*)

They come to you as they come from the still in the state of absolute purity. Samples will convince you of the added value to be had from these Pure Quality Oils.

INDOL

U. S. A. MANUFACTURED AND READILY AVAILABLE

Its great power makes it extremely economical to use, not only in the manufacture of Jasmin Odors but in many other Floral Compositions as well.

For the sake of economy, dependability and the fine results to be obtained with Indol, send for a sample and suggestions as to its use.

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Aromatics Division
GENERAL DRUG COMPANY
644 Pacific St., Brooklyn, N. Y.

9 S. CLINTON STREET, CHICAGO 1019 ELLIOTT STREET, W., WINDSOR, ONT

Oil, sardine, crude,[1,5] tanks, Pac. Coast..lb. .0890- —
ref'd, alkali, dms.....lb. .1405- .140
kettle-bodied, dms.....lb. .1505- .150
light-pressed, dms.....lb. .1305- .130
tanks.....lb. .1225- —
Sassafras, artif., cns.....lb. 1.25 - 1.40
natural, cns., dms.....lb. 1.90 - 2.55
Savin, cns.....lb. 26.00 - —
Savory, cns.....lb. 8.00 - —
Sesame,[1,6] tanks.....lb. .1430- —
Shingle stain, bbls., c.l., works. gal. .19 - —
l.c.l., works.....gal. .20 - —
tanks, works.....gal. .14 - —
Snake root, Canada, cns.....lb. No prices
Soybean,[1,5] cr., tank, mill..lb. .1175- —
clarif., dms.....lb. .1299- .1340
tanks.....lb. .1259- —
refd., varnish, dms.....lb. .1389- .1400
tanks.....lb. .1340- —
Spearmint, dms.....lb. 4.00 - —
Sperm,[6] bleach, 38°, dms....lb. .1443- —
natural, 45°, dms.....lb. .1310- —
Spruce, cns., dms.....lb. 1.10 - 1.40
needle, cns.....lb. 3.00 - 3.25
Sunflower seed,[1,5] tanks.....lb. .1430- —
Sweet birch, North, cns.....lb. 5.25 - 5.25
South, cns.....lb. 2.50 - 5.00
Tall, crude, dms., c.l., works, ton.53.65 -55.00
l.c.l., works.....ton.60.00 -65.00
tanks, works.....ton.40.00 -45.00
refined, dms., c.l., works..lb. .05 - —
l.c.l., works.....lb. .05½- —
tanks, works.....lb. .04½- —
Tallow,[5] acidless, bbls.....lb. .14¼- —
tanks.....lb. .13¾- —
Tansy, cns.....lb. 3.70 - 3.90
Tar, pine, dms., E. cities..gal. .30 - .33
tanks.....gal. .24¼- —
rect., USP, bbls.....gal. .60 - —
Tar acid (sc. T).
Thyme, NF, red, cns.....lb. 2.50 - 3.25
white, cns.....lb. 2.65 - 4.00
Oil, tung,[1,6] dms.....lb. .39 - —
tanks.....lb. .38¾- —
Turkey red (see Castor, sulphonated).
Turpentine (see T).
Vetiver, Java, bots.....lb. 25.00 -27.50
Whale,[5] ref., natural, dms..lb. .1187 Nom.
winter, bleach. dms.....lb. .1282 Nom.
Wheat germ, dms.....gal. 10.00 -13.50
White mineral, tech., 50-60 vis., dms., c.l..gal. .36 - —
l.c.l.....gal. .42 - .46
65/75, vis., c.l.....gal. .36 - —
l.c.l.....gal. .42 - .45
USP, 80/90 vis., dms., dm. charges not included, c.l..lb. .39 - —
c.l.....gal. .45 - .48
95/105 vis., dms., c.l....gal. .44½- —
l.c.l.....gal. .50½- .53½
125/135 vis., dms., c.l...gal. .49 - —
c.l.....gal. .53 - .58
145/155 vis., dms., c.l...gal. .51 - —
l.c.l.....gal. .57 - .60
175/185 vis., c.l.....gal. .54½- —
l.c.l.....gal. .60½- .63½
200/210 vis., c.l.....gal. .58 - —
l.c.l.....gal. .64 - .67
320/350 vis., c.l.....gal. .65 - —
l.c.l.....gal. .71 - .74
335/345 vis., c.l.....gal. .66 - —
l.c.l.....gal. .72 - .75
f.o.b. San Francisco, 55 vis., returnable bbls., c.l. gal. .40 - —
5 bbls.....gal. .45 - —
85 vis., c.l.....gal. .40 - —
5 bbls.....gal. .45 - —
100 vis., c.l.....gal. .40½- —
5 bbls.....gal. .54½- —
145 vis., c.l.....gal. .57 - —
5 bbls.....gal. .62 - —
190 vis., c.l.....gal. .60½- —
5 bbls.....gal. .65½- —
340 vis., c.l.....gal. .72 - —
5 bbls.....gal. .77 - —
Oil, wintergreen, nat., North, cns..lb. 5.50 - 8.50
South, cns.....lb. 4.00 - 4.25
synthetic (see Methyl salicylate).
Wood (see Oil, chinawood).
Wormseed, cns.....lb. 5.50 Nom.
Wormwood, cns.....lb. 5.00 - 5.75
Ylang-ylang, bots.....lb. 11.00 -17.50
Oleostearin,[1] bbls.....lb. .1054- —
Olivine, aggregate, c.l., mines. ton. 7.00 -11.00
crushed, 8 mesh., bulk, c.l., works..ton. 8.00 - —
paper bgs., c.l., works..ton. 9.50 - —
200 mesh., c.l., mines....ton.17.00 - —
100 mesh., c.l., mines....ton.15.00 - —
20 mesh to dust.....ton.12.00 - —
lumps, same basis.....ton. 7.00 - —
spalls, same basis.....ton. 5.00 - —
Opium gum, USP, cns., 50-lb. lots. lb.13.00 - —
25-lb. lots, cns.....lb.13.25 - —
smaller lots, cns.....lb.13.50 -13.65
Prices on powd. and gran. USP opium are $1.50 per pound higher.
Orange, dinitroaniliin toner,[1]..lb. 1.05 - —
Lake, Persian,[1] bbls.....lb. .30 - .45
Mineral, Amer., bbls., 5 tons, dlvd., Ala., Ark., Cal., Fla., Ga., La., Miss., Okla., Tex. and W. of Cascade Mts. in Ore. and Wash..lb. .12¼- —
dlvd. Ariz., Idaho, Nev., Utah and E. of Cascade Mts. in Ore. and Wash. lb. .12¾- —
Colo., Mont., N. M., Wyo..lb. .12½- —
dlvd. other points.....lb. .12 - —
smaller lots, dlvd. Ala., etc..lb. .12¾- —
Ariz., etc.....lb. .13¼- —
Colo., Mont., N.M., Wyo. lb. .13 - —
Other points.....lb. .12½- —
Molybdate,[1] bbls.....lb. .41 - —
Orthonitroaniliin toner,[1] kgs., works..lb. .80 - —
Toner, bbls.....lb. .80 - 1.05
Orange peel, bitter, bbls.....lb. .30 - .31
Haitian, bgs.....lb. .16 - .17
sweet, bls.....lb. .16 - .17
Orangeflower petals, cs.....lb. .45 - .75
Oregano, Mexican, bgs.....lb. .14¼- .14¾
Orris root, African, bls.....lb. 1.00 - 1.05
powd., bbls., bxs.....lb. 1.12 - 1.15
Portuguese, bls.....lb. .45 - .46
Verona, bls.....lb. 1.25 - 1.30
Orthoamylphenol, dms., works..lb. .25 - —
Orthoanisidin, bbls.....lb. .70 - —
Orthochloroaniliin, dms.....lb. .60 - .70
Orthochlorophenol, dms.....lb. .32 - —
Orthocresol,[5,6] 30.4° C. Min. M. P., dms., c.l., works..lb. .17½- .18
l.c.l., same basis.....lb. .18 - .18½
29.0° C. Min. M.P., dms., c.l., works..lb. .16½- .17
l.c.l., same basis.....lb. .17 - .17½
Orthodichlorobenzene, dms., c.l., works, frt. alld. E. of Rockies..lb. .07 - —
l.c.l., same basis.....lb. .08 - —
tanks, same basis.....lb. .06½- —
Orthodichlorobenzene prices west of Rockies 1c. per lb. higher.
Orthonitroaniliin, dms.....lb. .45 - —
Orthonitrochlorobenzene, dms..lb. .15 - .18
Orthonitroparachlorophenol,cns.lb. .75 - —
Orthonitrotoluene, dms.....lb. .09 - —
Orthophenetidin, dms.....lb. .82 - —
Orthotoluidin, dms.....lb. .19 - —
Osage orange, crystals, bbls..lb. .23 - —
extract, bbls., No. 1, bbls..lb. .11 - —
No. 2, bbls.....lb. .10 - —
Oxyquinolin sulphate, cns., 100 lbs., works..lb. 3.50 - —
smaller lots.....lb. 3.75 - 4.15

P

Papain, powd., cs.....lb. 2.95 - 3.05
Papaverine, hydrochloride, NF, natural, cns., 100-oz. lots..oz. 7.00 - —
smaller lots.....oz. 7.05 - 7.25
sulphate, natural, cns.....oz. 7.10 - 7.35
Paprika,[1] Portuguese, extra fancy, bgs..lb. .39½- .40
good, bgs.....lb. .37 - .38
Spanish, fancy,bgs.....lb. .45 - .56
good, bgs.....lb. .36 - .37
fair, bgs.....lb. .32 - .33
Para-anisidin, dms., works...lb. .75 - —
Parachlorophenol, dms., wks..lb. .32 - —
Paracresol,[6] bbls., f.o.b. wks..lb. .41 - —
Paracymene, dms., c.l., works..lb. .1595- —
l.c.l.....lb. .1645- —
tanks.....lb. .1545- —
Paradichlorobenzene, dms., c.l., works..lb. .11 - .13
l.c.l., same basis.....lb. .12½- .15
Paraffin, crude scale, white or yellow, 122-124 AMP, bbls., c.l., refinery..lb. .04¼- —
fully ref'd, slabs, loose, 120-122 AMP, c.l., refinery..lb. .05 - —
123-125 AMP, same basis. lb. .0520- —
126-127 AMP, same basis. lb. .0520- —
128-130 AMP, same basis. lb. .0560- —
130-132 AMP, same basis. lb. .0565- —
131-133 AMP, same basis. lb. .0585- —
133-135 AMP, same basis. lb. .0615- —
135-137 AMP, same basis. lb. .0640- —
138-140 AMP, same basis. lb. .0715- —
143-145 AMP, same basis. lb. .0810- —
149-151 AMP, same basis. lb. .1050- —
Prices in bags 4/10c. per lb. higher than those for slabs loose.
Parafermaldehyde,[5,6] dms., 1,000 lbs. or more, works..lb. .23 - —
100 to 900 lbs., works.....lb. .24 - —
Paranitrophenol, kgs.....lb. .35 - —
Paraldehyde, tech., 98%, 55 and 110-gal. dms., l.c.l., works..lb. .12 - —
and 10-gal. dms., works..lb. .15 - —
USP, cns., cbys.....lb. .35 - .45
Paranitroaniliin, kgs., works...lb. .43 - .45
Paranitrochlorobenzene, kgs., works..lb. .15 - —
Paranitrotoluene, kgs., works..lb. .30 - —
Paraphenylenediamine, tech., bbls., works..lb. 1.25 - 1.30
redistilled, w.w., bbls., works, lb. 2.00 - —
Paratoluenesulphonamide, bbls.lb. .70 - —
Paratoluidin, bbls., works....lb. .48 - —
Pareira brava root, bls.....lb. .21 - .27
Paris green,[1] dealer, dms., kgs., c.l., works, frt. alld..lb. .20 - .25
l.c.l., same basis.....lb. .21 - .26
Passion flower, herb, bls.....lb. .10 - .11
Patchouli leaves, bls.....lb. .34 - .35
Pectin, bbls.....lb. .85 - —
Pellitory root, bls.....lb. .65 - .70
Pennyroyal leaves, bls.....lb. .15 - .16
Pentachlorophenol, dms., works, lb. .20 - .25
Pentaerythritol,[6] CP, bbls., dlvd., lb. .75 - —
less than barrel lots.....lb. 1.00 - —
tech., bbls., dlvd.....lb. .33½- .35½
less than barrel lots.....lb. .40 - —
Tetra acetate, bbls., dlvd....lb. 1.60 - —
less than barrel lots.....lb. 1.50 - —
Pentane,[1] 28-°38° C., industrial grade, dms., c.l., Group 3, gal. .11 - —
l.c.l., Group 3.....gal. .19 - —
tanks, Group 3.....gal. .07½- —
laboratory grade, dms., c.l., gal. .16 - —
l.c.l.....gal. .29 - —
10 gal.....gal. .55 - —
Pepper, black,[1] 15 tons, bgs...lb. .0665- Bid
50 to 100 bgs.....lb. .0705- Bid
white,[1] 15 tons, bgs.....lb. .1161 Nom.
24 bgs.....lb. .1295 Nom.
red, chillies, Carolina, longs, longs, bgs..lb. .22½- .23
Louisiana, sports, bgs....lb. .35 - .36
Mombassa, bgs.....lb. .23 - .23½
Niger, fair, bgs.....lb. .18½- .19
Sierra Leone, bgs.....lb. .22½- .23
Tanganika, bgs.....lb. .20½- .21
Peppermint, USP, bls.....lb. .40 - .45
Import, bls.....lb. .96 - 1.10
Perchloroethylene,[5] dms., c.l., works, frt. alld., Zone 1..lb. .0782- .0800
l.c.l., same basis.....lb. .0832- .0850
Zone 2, dms., c.l., works, frt. alld..lb. .0832- .0850
l.c.l., same basis.....lb. .0882- .0900
Zone 3, dms., c.l., works, frt. equald..lb. .0832- .0900
l.c.l., same basis.....lb. .0932- .0950
Zone 4, dms., c.l., f.o.b. stock point..lb. .0832- .0900
l.c.l., same basis.....lb. .0932- .0950
Perchloroethylene zones are:—(1) Conn., Del., Ill., Ind., Ia., Ky., Me., Md., Mass., Mich., Minn., Mo., Neb. (Omaha), Kans. (Kansas City), N. J., N. Y., N. C., Ohio, Pa., R. I., Tenn., Vt., Va., W. Va., Wis.; (2) Ala., Ark., Fla., Ga., Kan., La., Miss., Neb., N.D., Okla., S.C., S.D.; (3) Col., Mont., (E), N.M., Tex., Wyo.; (4) Ariz., Cal., Ida., Mont. (W), Nev., Ore., Utah, Wash.
Peru balsam, dms.....lb. 1.30 - 1.35
Petrolatum, tech., dark, bbls., Group 3, c.l..lb. .021 - —
golden Topax, bbls., c.l.....lb. .032 - —
l.c.l.....lb. .036 - —
red, veterinarian, bbls., c.l..lb. .024 - —
l.c.l.....lb. .028 - —
USP, amber, fiber dms., c.l..lb. .03½- —
l.c.l.....lb. .04½- —
extra amber, fib. dms., c.l..lb. .03¾- —
l.c.l.....lb. .04¾- —
cream, c.l., fib. dms.....lb. .05 - —
l.c.l.....lb. .06½- —
yellow, soft, c.l., fib. dms..lb. .03½- —
l.c.l.....lb. .04½- —
white, lily, c.l., fib. dms...lb. .05¾- —
l.c.l.....lb. .07¼- —
snow, c.l.....lb. .06½- —
l.c.l.....lb. .08 - —
soft, c.l.....lb. .05½- —
l.c.l.....lb. .06½- —
Petroleum, crude, bulk, at wells, California, heavy grades..bbl. .98 - 1.01
Illinois.....bbl. 1.37 - —
Kentucky, Union County..bbl. 1.32 - 1.37
Louisiana-Arkansas.....bbl. .86 - 1.20
Oklahoma-Kansas.....bbl. .85 - 1.25
Pennsylvania.....bbl. 1.31 - 3.00
Texas, North, North-Central.. bbl. .95 - 1.25
West.....bbl. .70 - 1.12
Panhandle.....bbl. .80 - 1.32
Wyoming.....bbl. 1.12 —
Ether, laboratory grade, 30-60° C., dms., c.l., Group 3..gal. .18 - —
l.c.l.....gal. .29 - —
10 gals.....gal. .55 - —
55-60° C., dms., c.l.....gal. .29 - —
10 gals.....gal. .55 - —
40-75° C., dms., c.l.....gal. .16 - —
l.c.l.....gal. .29 - —
10 gals.....gal. .55 - —
Fuel oil, furnace, tanks, at refinery:—
Arkansas, No. 1.....gal. .04 - —
Nos. 2 and 3.....gal. .03½- —
California, heavy....bbl. 1.00 - 1.10
light.....bbl. 1.20 - —
diesel, tanks.....gal. .04 - —
stove dist.....gal. .05 - —
Group 3, No. 3.....gal. .03½- —
No. 5.....bbl. .85 - —
No. 6.....bbl. .80 - .85
Kansas, No. 6.....bbl. .85 - .90
Oklahoma, No. 3.....gal. .03¼- —
No. 6.....bbl. .90 - —
14-16.....bbl. .97 - —
Pennsylvania, No. 1..gal. .06¾- .06¾
No. 2.....gal. .06¾- .07
No. 3.....gal. .06½- .07¼
36-40 gravity.....gal. .06¾- .06¾
bunker, Baltimore, Md.....bbl. 1.65 - —
Boston, Mass.....bbl. 1.65 - —
Charleston, Mass.....bbl. 1.60 - —
Houston, Tex.....bbl. .85 - —
Jacksonville, Fla.....bbl. 1.60 - —
New Orleans, La.....bbl. .85 - —
New York, N. Y.....bbl. 1.65 - —
Norfolk, Va.....bbl. 1.65 - —
Philadelphia, Pa.....bbl. 1.65 - —
Portland, Me.....bbl. 1.65 - —
Port Arthur, Tex.....bbl. .85 - —
Port Tampa, Fla.....bbl. 1.55 - —
Providence, R. I.....bbl. 1.65 - —
Savannah, Ga.....bbl. 1.60 - —
Texas City, Tex.....bbl. .85 - —
Lacquer diluent, at refinery:—
California, 100 l.b.n., 200 e.p., tanks, dlvd., Los Angeles. gal. .11 - —
Fort Wells, Wash.....gal. .12 - —
San Francisco....gal. .11½- —
Willbridge, Ore..gal. .12 - —
East Coast, N. J., N. Y., tanks..gal. .11 - —
Group 3, benzol type, tanks. gal. .07¾- —
toluol type, tanks.....gal. .07¾- .07¼
Mineral spirits, at refinery, California (f.o.b. San Francisco), 163-252 b.r., tanks.. gal. .10¼- —
198-290 b.r., tanks...gal. .10¼- —
246-397 b.r., tanks...gal. .10¼- —
312-408 b.r., tanks...gal. .09 - —
362-458 b.r., tanks...gal. .09 - —
East Coast, N. J., N. Y., tanks..gal. .10 - —
Group 3, tanks.....gal. .08½- —
Gulf Coast, tanks.....gal. .08¼- —
tankwagon, Baltimore....gal. .12 - .13
Boston.....gal. .12 - —
Bridgeport, Conn.....gal. .1680- —
Buffalo.....gal. .1240- —
Camden, N. J.....gal. .11 - —
Chicago.....gal. .1314- —
Detroit.....gal. .1580- —
Hartford.....gal. .1630- —
Kansas City, Mo.....gal. .1480- —
Lancaster, Pa.....gal. .12 - —
Milwaukee.....gal. .1440- —
Minneapolis.....gal. .1420- —
Newark (200 gal.).....gal. .11 - —
New York (200 gal.)....gal. .11 - —
Philadelphia.....gal. .11 - —
Pittsburgh.....gal. .129 - —
Providence.....gal. .13 - —
Rochester.....gal. .1320- —
St. Louis.....gal. .1370- —
Syracuse.....gal. .14 - —
Washington, D. C.....gal. .13 - —
Wilmington, Del.....gal. .13 - —
naphthas, cleaners, at refinery:—
California (f.o.b. San Francisco), tanks..gal. .12 - —
East Coast, N. J., N. Y., tanks..gal. .11 - —
Group 3, tanks.....gal. .07½- —
Gulf Coast (f.o.b. New Orleans), tanks..gal. .06¾- —

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Quality Leadership

● Leadership such as CALCO enjoys in the field of pharmaceutical products is no happenstance. It is a leadership that grows out of rigid, top standards of merit. That is why, for dependability and unswerving quality, large commercial users of these products have long since found it wise to call upon CALCO first. From superbly equipped laboratories throughout every step to large volume production, CALCO pharmaceuticals are checked with infinite care . . . a care undiminished and unrelaxed even in these war-rushed days of precedent . . . setting high production goals.

SULFADIAZINE (and Sodium Salt)
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Nikethamide
Sulfanilamide U.S.P.
Cinchophen N. F.
Neocinchophen U.S.P.
SULFATHIAZOLE, U.S.P. (and Sodium Monohydrate)
Mandelic Acid U.S.P.
Methylene Blue U.S.P. (Powder—Crystals)
Calcium Mandelate U.S.P.
Glutamic Acid HCL
Aminoacetic Acid U.S.P.
Calcium and Sodium Pantothenate
2-Methyl-1, 4 Naphthoquinone
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Certified Colors for Pharmaceutical and Cosmetic Use

Pharmaceutical Department
CALCO CHEMICAL DIVISION
AMERICAN CYANAMID COMPANY
BOUND BROOK — calco — NEW JERSEY

Petroleum naphtha, cleaners, tankwagon, Boston	gal.	.13 - —
Bridgeport	gal.	.1730- —
Chicago	gal.	.1380- —
Detroit	gal.	.15 - —
Milwaukee	gal.	.1440- —
Minneapolis	gal.	.1420- —
Newark	gal.	.12 - —
New York	gal.	.12 - —
Philadelphia	gal.	.125 - —
St. Louis	gal.	.1470- —
high-solvency, aromatic, No. 1,[6] over 70% arom., tanks, f.o.b. Bayway, N.J.	gal.	.21½- —
No. 2,[6] over 90% arom., same basis	gal.	.21½- —
No. 3, same basis	gal.	.22½- —
No. 3,[6] tanks, same basis	gal.	.228 - —
No. 30,[6] tanks, f.o.b. Kinghland, N. J., frt. alld.	gal.	.228 - —
No. 40, tanks, f.o.b. Wilmington, Cal.	gal.	.18½- —
V.M.&P., at refinery:— California, 46.5, 254 i.b.p., 380 e.p., tanks, f.o.b. El Segundo	gal.	.11 - —
Richmond	gal.	.11½- —
Willbridge, Ore., Pt. Wells, Wash.	gal.	.12 - —
54-77, 190 i.b.p., 310 e.p., tanks, dlvd. Los Angeles	gal.	.10 - —
San Francisco	gal.	.10½- —
Portland, Seattle	gal.	.11 - —
East Coast, N. J., N. Y., tanks	gal.	.11 - —
Group 3, tanks	gal.	.07½- —
Gulf Coast (dvd. New Orleans), tanks	gal.	.06½- —
tankwagon, Boston	gal.	.13 - —
Chicago	gal.	.1380- —
Detroit	gal.	.15 - —
Milwaukee	gal.	.1540- —
Minneapolis	gal.	.1520- —
Newark (200 gal.)	gal.	.125 - —
New York	gal.	.13 - —
Philadelphia	gal.	.125 - —
Pittsburgh	gal.	.12½- —
St. Louis	gal.	.1470- —
Solvent, rubber, at refinery, California (f.o.b. San Francisco)	gal.	.24 - —
East Coast, N. J., N. Y., tanks	gal.	.11 - —
Group 3, tanks	gal.	.07½- .07½
Stoddard (CS 8-33), at refinery:— California (f.o.b. San Francisco), tanks	gal.	.11 - —
East Coast, N. J., N. Y., tanks	gal.	.09½- —
Group 3, tanks	gal.	.06¾- —
Pennsylvania, western, tanks	gal.	.07 - .07¾
tankwagon, Baltimore	gal.	.13 - —
Boston	gal.	.12 - —
Chicago	gal.	.13½- —
Detroit	gal.	.1580- —
Milwaukee	gal.	.1440- —
Minneapolis	gal.	.1420- —
Newark	gal.	.11 - —
New York	gal.	.11 - —
Philadelphia	gal.	.11 - —
Pittsburgh	gal.	.12½- —
St. Louis	gal.	.1370- —
Syracuse	gal.	.14 - —
Phenobarbital, 5-lb. cns.	lb.	3.60 - 3.70
dms., 100 lbs.	lb.	3.50 - —
Phenol,[2,6] 90-92% (cresol, 8-10%), dms., c.l., works, frt. equald.	lb.	.10 - .11
l.c.l., same basis	lb.	.10¾- .11¾
tanks, same basis	lb.	.09 - .10
82-84% (cresol, 16-18%), dms., c.l., same basis	lb.	.09¾- .10¾
l.c.l., same basis	lb.	.10½- .11½
tanks, same basis	lb.	.08¾- .09¾
USP, dms., c.l., works, frt. equald.	lb.	.10½- .12½
l.c.l., same basis	lb.	.11¼- .13¼
tanks, same basis	lb.	.09½- .11½
Phenolphthalein, USP, bbls., dms., 2,000 lbs.	lb.	.85 - —
smaller lots	lb.	.87 - .89
yellow, fib. dms., 2,000 lbs.	lb.	.80 - —
smaller lots	lb.	.82 - .87
Phenothiazin, unmodified, fib. dms., 2,000-lbs. shipt.	lb.	.65 - —
smaller lots, same basis	lb.	.65 - .70
Phenyl chloride, dms.	lb.	.17 - —
Phenylacetaldehyde, 50% solut., bots.	lb.	2.75 - 3.00
100% solut., bots.	lb.	4.40 - 5.00
Phenylethyl acetate, cns.	lb.	4.00 - 5.00
Phenylethylphenyl acetate, bots.,	lb.	5.50 - 6.50
Phenylhydrazin, base, CP, bots.,	lb.	4.55 - —
Hydrochloride, CP, bots., works,	lb.	7.10 - —
commercial, kgs., works	lb.	1.75 - —
Phloroglucinol, CP, fib. dms.	lb.	13.75 -14.75
tech., fib. dms.	lb.	12.00 -12.50
Phosgene, ton lots, works	lb.	.19 - —
Phosphate rock,[1,6] Fla., land pebble, unground, run-of-mine, washed, dried, 68%-66% b.p.l., M.P.R. 240 provisions, bulk, f.o.b. car, mine, c.l.	long ton.	2.00 - —
70%-68% b.p.l., M.P.R. 240 provisions, same basis	long ton.	2.40 - —
72%-70% b.p.l., M.P.R. 240 provisions, same basis	long ton.	3.00 - —
75%-74% b.p.l., M.P.R. 240 provisions, same basis	long ton.	4.00 - —
77%-76% b.p.l., M.P.R. 240 provisions, same basis	long ton.	5.00 - —
Entirely pebble 50c. per ton higher than above prices.		
finely ground 65.5%, M.P.R. 240 provisions, basis 30% P_2O_5 minimum	short ton.	2.75 - —
68%, basis 31% P_2O_5 minimum	short ton.	3.00 - —
70,% basis 32% P_2O_5 minimim.	short ton.	3.25 - —
Tenn., brown, unground, run-of-mine, 70%-68% b.p.l., 5% i. & a., M.P.R. 240 provisions, same basis	long ton.	4.80 - —
72%-70% b.p.l., 5½% i. & a., M.P.R. 240 provisions, same basis	long ton.	5.30 - —
refinery ground, same basis,	long ton.	4.50 - —
30% P_2O_5, same basis	short ton.	4.70 - —
31% P_2O_5, same basis	short ton.	4.80 - —
32% P_2O_5, same basis	short ton.	5.00 - —
33% P_2O_5, same basis	short ton.	5.50 - —
Phosphate, defluorinated (see under D).		
Phosphorus,[6] red amorpheus, cs.,	lb.	.40 - 4.4
tins, export	lb.	.55 - —
yellow,[6] dms.	lb.	.25 - —
cs.	lb.	.23 - .25
Oxychloride,[6] cyls.	lb.	.15 - .18
Phosphorus, pentoxide,[6] dms., c.l., works	lb.	.11 - .12
l.c.l., works	lb.	.13 - .14
Sesquisulphide,[6] cs.	lb.	.38 - .42
Trichloride,[6] cyls.	lb.	.15 - .16
Phthalamide, bbls., works	lb.	.35 - .40
kgs., works	lb.	.45 - .50
Phthalic anhydride,[6] bags, bbls., c.l., works, frt. alld. E. of Denver	lb.	.13 - —
l.c.l., same basis	lb.	.14 - —
Picra leaves, bgs.	lb.	.06 - .09½
Picoline (see Alphapicoline and Betapicoline).		
Picrotoxin, bots.	oz.	5.00 - —
Pilocarpine, hydrochleride, USP, bots., vls.	oz.	3.90 - 5.25
Nitrate, bots., vls.	oz.	3.80 - 5.15
Pimento,[1] Jamaica, bgs.	lb.	.27 - .27½
Mexican (see Allspice, Mexican).		
Pinkroot, bls.	lb.	.65 - .70
Piperazine hexahydrate, bots.	lb.	16.00 - —
Pitch, burgundy (see B).		
Coaltar,[2] 160° m.p., bbls., c.l., works	ton	19.00 - —
l.c.l., works	ton.	22.00 - —
Hardwood, paper bgs., works.	lb.	.03½- —
Linseed, dms.	lb.	.05 - .05½
Petroleum (see Asphaltum, Mexican, Texas).		
Pine, dms.	100 lbs.	3.25 - —
stands, 200 lbs.	stand.	6.00 - —
Plaster of paris (see Gypsum).		
Pleurisy root, Southern, bls.	lb.	.12 - .13
Podophyllin, dms.	lb.	8.75 - 9.00
Pokeroot, bbls.	lb.	.10 - .11
Polyamylnaphthalene, dms., works,	lb.	.25 - —
Pomegranate, root bark, bgs.	lb.	.80 - .85
Tree bark, bgs.	lb.	1.05 - 1.10
Poppy flowers, red, bls.	lb.	.75 - .85
Seed, Dutch, bgs.	lb.	.60 - .62
Indian, white, bgs.	lb.	.10 - .10½
Turkish, bgs.	lb.	No stocks
cleaned, bgs.	lb.	.45 - .46
Potash abietate	lb.	.06 - —
Acetate, USP, bbls., dms.	lb.	.28 - .30
cns.	lb.	.31 - .33
Arsenite,[6] USP, solut., cbys., djns.	lb.	.13 - .15
Bicarbonate, USP, cryst., gran., bbls., dms.	lb.	.19 - .21
Bichromate,[6] bbls., cks., c.l., works	lb.	.09¾- —
l.c.l., works	lb.	.09¾- .10
Potash bichromate in bgs. ½c. less.		
Carbonate, calc., bbls., c.l., works	lb.	.06½- —
l.c.l., same basis	lb.	.06¾- —
hydrated, 83-85%, bbls., c.l., works	lb.	.05½- —
l.c.l., dms., same basis	lb.	.05¾- —
USP, gran., bbls., dms.	lb.	.14 - .20
powd., bbls., dms.	lb.	.19 - .21
Caustic, flake, 88-92%, dms., c.l., works	lb.	.07 - —
l.c.l., works	lb.	.07½- —
45% basis, dms.	lb.	.08¼- .08½
tanks	lb.	.02½- —
liquid, dms., c.l., works, frt. alld.	lb.	.03 - —
l.c.l., dms., same basis	lb.	.03¼- —
tanks, same basis	lb.	.02¾- —
solid, 88-92%, dms., c.l., works	lb.	.06¼- —
l.c.l.	lb.	.06¾- .06¾
Chlorate,[2,6] cryst., kgs., c.l., works	lb.	.11 - .11¾
l.c.l., works	lb.	.119 - .13
powd., dms., kgs., c.l., works,	lb.	.09¾- .11¾
l.c.l., works	lb.	.119 - .13
export, 1 to 10 tons, kgs., ex whse.	lb.	.18 - .20
Chloride, cryst., tech., 98%, bgs., kgs.	lb.	.08 Nom.
Chromate,[6] bgs.	lb.	.24 - .28
Citrate, USP, gran., bbls., dms.,	lb.	.33½- .38½
powd., 5c. per lb. higher.		
Potash cyanide, dms., works	lb.	.65 - —
Fluoride, bbls.	lb.	.34 - .40
Glycerophosphate, 75%, sol., cns., cbys.	lb.	1.65 - 1.77
dms., 1,000 lbs.	lb.	1.50 - —
100 lbs.	lb.	1.60 - —
Guaiacolsulphonate, NF, dms.	lb.	1.65 - 1.85
Hydroxide, USP, sticks, dms.	lb.	.34 - .36
Hypophosphite, cns.	lb.	.72 - .78
Iodate, bots., 5 lbs.	lb.	3.46 - —
cns., 25 lbs.	lb.	3.35 - —
Iodide, bots. or cns.	lb.	1.44 - 1.48
dms.	lb.	1.35 - 1.38
Manure salt, dom.,[6] 22% K_2O, f.o.b. Carlsbad, N. M.	unit-ton.	.20 - —
22% K_2O, seasonal contract discounts to June 30, 1944, 12%.		
20% K_2O, same basis	unit-ton.	.21 - —
Metabisulphite, gran., bbls.	lb.	.19 - .21
powd., bbls.	lb.	.25 - —
Muriate, dom.,[6] 60-62-63%, K_2O, bulk, ex vessel, ports	unit-ton.	.53½- —
Seasonal contract discounts to June 30, 1944, 12%.		
granular, 50-52, K_2O	unit-ton.	.56 - —
Russian,[6] offered from consignments afloat, subject to safe arrivals	unit-ton.	.53½- —
Domestic muriate of potash prices, basis f.o.b. Carlsbad, N. M., are 11.2c. per unit of K_2O less than the ex vessel price, basis Trona, Cal., 8c. per unit of K_2O less than ex vessel price at Pacific Coast ports.		
Nitrate (see Saltpeter).		
Oxalate, neutral, pure gran., bbls., dms.	lb.	.37 - .50
fine gran., bbls., dms.	lb.	.28 - .31
Perchlorate,[6] kgs., works	lb.	.09½- .11

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"Above Average" Quality Speeds Delivery of Navy "War Paint"

Speed is the vital factor in the Navy's huge shipbuilding program. The manufacturers who are producing the huge quantities of paints and primers to give these warships their "battle coats" are continuously working against time. They cannot risk production delays that might result from dubious quality or lack of uniformity in mineral spirits. That is why well over half of the outstanding manufacturers in SUN'S territory, who are producing paints for the Navy and Army, use SUN SPIRITS.

One of the largest war paint producers recently wrote: "We especially appreciate the technical help given us on a special primer for the Navy. Because it was entirely new, plus the strict requirements on viscosity, we might have encountered delays if your quality had not been above average."

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SUN INDUSTRIAL PRODUCTS

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Potash permanganate, tech., dms., works..lb. .19¾- .20¼
USP, dms., works.....lb. .20½- .21
Prussiate, red, bbls., dms...lb. .50 - .53
Yellow, bbls.....lb. .16 - .17
Ricinoleate, tech., bbls.....lb. .18 - —
Silicate, alkaline, lumps, bgs., works..lb. .07 - —
glass, bgs., c.l.....ton.290.00 - —
l.c.l. .....100 lbs.15.25 - —
solution, 20° Be., ret. dms., c.l., works..100 lbs. 4.25 - —
l.c.l., 5 or more, works, 100 lbs. 5.00 - —
1-4, works.....100 lbs. 5.50 - —
32° Be, ret. dms., c.l., works, 100 lbs. 4.75 - —
l.c.l., 5 or more, works, 100 lbs. 5.50 - —
1-4, works.....100 lbs. 6.00 - —
40.5° Be, ret. dms., c.l., works..100 lbs. 5.75 - —
l.c.l., 5 or more, works, 100 lbs. 6.50 - —
1-4, works.....100 lbs. 7.00 - —
Sulphate, NF, powd., bbls...lb. .15 - .21
Prices on granular 4c. higher.
tech., dom., bulk,[6] basis, 90-95%, K_2SO_4, min., 90% ex vessel, Atl. or Gulf ports..ton.36.25 - —
Sulphocyanide, NF, dms....lb. .70 - .78
Xanthate, dms., c.l.....lb. .12 - —
Potash-gold cyanide, 41% gold, bots., works..oz.14.20 -14.96
Potash-magnesia, sulphate, bulk,[6] min., 40%, K_2SO_4, 18.50% MgO, ex vessel, ports..ton.26.00 - —
Potash-soda ferricyanide, dms., works..lb. .40 - .43
Potash-titanium oxalate, bbls., dms..lb. .45 - .50
Prickly ash bark, bls.....lb. .11 - .12
Berries bgs.....lb. .23 - .25
Prince's pine herb, b's.....lb. .25 - .49
Procaine hydrochloride, cns., 25 lbs..lb. 8.00 - —
smaller lots.....lb. 8.25 - 8.75
Propane,[1] industrial grade, tanks, Group 3..gal. .03¾- —
Propyleneglycol, dms.....lb. .21 - —
Psyllium seed (see Fleaseed).
Pulsatilla, bls.....lb. .66 - .69
Pumice, grd., fine, bgs., ton lots, lb. .03¾- —
smaller lots.....lb. .03¾- .04
coarse, 0¾, 1, 1½, 2, 3, bgs., ton lots..lb. .03¾- —
smaller lots.....lb. .03¾- .04¼
Chi., ton lots.....lb. .04½- —
Pumice stone packed in barrels in ¼c. per lb. higher than the above prices.
Pumpkin seed, bgs.....lb. .12 - .18
Purple lake (see Red).
Putty, com'l, dms.....100 lbs. 3.15 - —
linseed oil, raw, dms....100 lbs. 5.00 - —
refined, dms.....100 lbs. 5.50 - —
standard, dms.....100 lbs. 4.20 - —
Pyrethrum[6] concentrate, inq. (20 to 1), basis 2 grams pyrethrins per 100 cc., dms., divd., gal. 5.75 - —
(30 to 1), 3 grams pyrethrins per 100 cc., dms., divd.gal. 8.55 - —
flowers,[6] coarse-grd. (g.f.p), 0.9% pyrethrins, bbls, frt. alld..lb. .27 - .28
fine-grd., 0.9% pyrethrins, bbls., lb. .29 - —
1.3 pyrethrins, frt. alld., bbls..lb. .39 - —
powd., 0.5 pyrethrins, bbls., frt. alld..lb. .28 - —
Pyridin,[6] denaturing, ret. dms., works, frt. equald..gal. 1.55 - 1.68
refd., 2°, ret. dms., same basis..lb. .45½- .46
Pyrites, Spanish, c.i.f. Atl. ports, long ton. 8.00 -10.00
Pyrocatechin, CP, cryst., works, fib. dms., tins..lb. 2.25 - 2.40
resublimed, fib. dms., tins...lb. 3.50 - —
Pyrophyllite, standard, 200 mesh, c.l., pap. bgs., mines..ton.10.00 - —
325 mesh, same basis.....ton.13.00 - —
No. 3, 200 mesh, c.l., mines.ton. 8.00 - —
325 mesh, same basis.....ton.11.00 - —
Pyroxylin scrap, amber, cs., works, lb. .12 - —
black, cs., works.....lb. .10 - —
China, white, ivory, cs., wks. lb. .13 - —
dense, white, cs., works...lb. .10 - —
gray, cs., works.....lb. .08 - —
mixed, mottles, opaques, cs., works..lb. .04 - —
Pyroxylin scrap, translucent pastels, cs., works.....lb. .10 - —
transparent, cs., works.....lb. .20 - —
colors, cs., works.....lb. .12 - —
shavings, amber, cs., works..lb. .16 - —
colors, mixed, cs., works..lb. .10 - —
white, cs., works.....lb. .15 - —

Q

Quassia chips, bls.....lb. .06 - .08
Quebracho extract,[6] solid, 63%, bgs., c.l., ex dock, in bond, based on ocean freight $12; insurance $1 per ton. Any difference for buyers account. Current freight $21.60; WSA insurance $3.75 per ton..lb. .04¾- —
clarified, 64%, bgs., c.l., same basis..lb. .05½- —
dissolved, 55% tan., bbls., works..lb. .04½- —
tanks, works.....lb. .04 - —
Quebracho extract, solid, ground, bgs., c.l..lb. .06½- —
l.c.l., bgs.....lb. .09 - —
Queen of the meadow leaves, bgs..lb. .12 - .18
Root, bgs.....lb. .10 - .14
Quercitron, crystals, bbls.....lb. .26 - —
extract, bbls., No. 1.....lb. .10 - —
No. 2.....lb. .09½- —
No. 3.....lb. .09 - —
solid, bxs.....lb. .18½- —
Quicksilver,[1,5] flasks (76 lbs. net), spot..flask.195.00 - 197.00
f.o.b. shipment point, Cal., Ore., Wash., Idaho, Utah, Nev., and Ariz..flask.191.00 - —
Tex. and Ark.....flask.193.00 - —
Quicksilver freight, $4.28 per flask to N.Y.; dealers' commission, 2%; brokers, 1%.
Quince seed, bgs.....lb. 1.30 - 1.75
Quinidine,[5] NF V, cryst., cns.oz. 1.06 + .12¾*
powd., precip., cns.....oz. 1.01 + .13½
Sulphate, USP, cns.....oz. .71 + .13½

* Surcharge of 13½c. per oz.; see note under Quinine.

Quinine,[5] N.F., cns., 100 ozs..oz. .84 + .13½*
Acetate, cns., 100 ozs.....oz. 1.05 + .13½
Arsenate, cns., 100 ozs.....oz. 1.05 + .13½
Arsenite, cns., 100 ozs.....oz. 1.07 + .13½
Bisulphate, USP, cns., 100 ozs. oz. .69 + .13½
Citrate, cns., 100 ozs.....oz. .78 + .13½
Dihydrobromide, bots., 50 ozs. oz. .86 + .13½
Ethylcarbonate, USP, cns., 100 ozs..oz. 1.25 + .13½
Ferrocyanide, cns., 100 ozs..oz. 1.07 + .13½
Formate, cns., 100 ozs.....oz. 1.00 + .13½
Glycerophosphate, cns., 100 ozs. oz. 1.20 + .13½
Hydrochloride, USP, cns., 100 ozs..oz. .76 + .13½
Hydrochlorosulphate, cns., 100 ozs..oz. .81 + .13½
Hydroiodide, cns., 100 ozs..oz. 1.05 + .13½
Hypophosphite, cns., 100 ozs.oz. 1.07 + .13½
Phosphate, N.F., cns., 100 ozs. oz. .90 + .13½
Salicylate, N.F., cns., 100 ozs. oz. .79 + .13½
Sulphate, USP, cns., 100 ozs.oz. .67 + .13½
Sulphocarbolate, cns., 100 ozs. oz. 1.05 + .13½
Tannate, USP X, cns., 100 ozs. oz. .63 + .13½
Valerate, NF IV, 100 ozs...oz. .99 + .13½
Tartrate, cns., 100 ozs.....oz. 1.03 + .13½

* Surcharge to cover present war risk insurance, ocean freight rates, and additional expenses over the cost of usual business. Changes in these controlling factors will be reflected in the surcharge invoiced.

Quinine-urea hydrochloride,[5] USP, cns..oz. .81 + .13½*
Surcharge; see note under Quinine.

R

R salt, dry, bbls.....lb. .50 - —
paste, dms.....lb. .52 - —
Rapeseed,[1] Argentine, bgs....lb. No stocks
dom., dwarf, Essex, bgs.....lb. .14½- .15
Raspberries, dried, bls.....lb. .90 - .97
Red, alizarin lake,[6] bbls., divd. N. of Tenn. and N.C., E. of Miss. R., including St. Paul, Minneapolis, Davenport, Rock Island, St. Louis..lb. 1.10 - 1.90

Prices ½c. per lb. higher divd. Ala., Fla., Ga., La. (Shreveport, 1¼c.), Miss., N.C., S.C., Tenn., Tex. (Dallas, Ft. Worth, 1¼c.; El Paso, 2c.), Cedar Rapids, Des Moines, Kansas City, Lincoln, Omaha, St. Joseph; 1.6c. per lb. higher divd. Pacific Coast; prices equaled with Chicago divd. Denver, Pueblo, Salt Lake City, Wichita.

Cadmium lithopone, deep shade, bbls. E. Rockies..lb. 1.00 - —
light shade, bbls., same basis..lb. .85 - —
medium shades, bbls., same basis..lb. .90 - —
Red cadmium lithopone, all shades, in smaller pkgs., 5c. per lb. higher.
Selenide, dark, bbls., works, lb. 2.50 - —
light, same basis.....lb. 2.20 - —
orange, bbls., 100-lb lots, works..lb. 1.50 - —
Carmine, 40, dms., 100 lbs., works..lb. 4.60 - —
smaller lots, works.....lb. 4.75 - 5.25
Crocus martis (see Red, purple oxide).
Dyes (see Dyes, red).
Eosin toner, bbls., works....lb. 1.35 - —
Firetoner, dom., bbls., wks..lb. .85 - —
Indian, pure, bbls., f.o.b. Bethlehem, Easton, E. St. Louis, N. Y..lb. .09¾- —
80-85%, bbls., same basis, lb. .07¾- —
imp., English, all shades..lb. .12 - —
Lacquer, maroon, bbls., works, lb. 1.25 - —
Lake C toner, alizarin, bbls., works..lb. .90 - —
Litho toner, alizarin, lake, bbls., works..lb. .60 - —
Pink, bbls., works.....lb. .20 - .25
Rose lake, bbls., works....lb. .25 - .28
Lithol-rubin toner, alizarin lake, bbls., works..lb. 1.10 - —
Maroon, alizarin lake, 25%, kgs., works..lb. .40 - —
cadmium, bbls., works.....lb. 1.10 - —
deep, bbls., same basis....lb. 1.20 - —
Red, maroon, in smaller pkgs., 5c. per lb higher.
Mercury oxide,[5] tech., bbls., 10,000 lbs., works..lb. 3.09 - —
smaller lots.....lb. 3.11 - —
Metallic, bbls., Pa. works..lb. .02 - —
Orange, Persian (see O).
Oxide, pure, bbls., c.l., works, lb. .09 - —
l.c.l., bbls..... " 09¾- —
reduced, 85%, copperas oxide, bbls., l.c.l., f.o.b. Bethlehem, Pa., Copley, O.; Easton, Pa., and E. St. Louis..lb. .08¾- —
50% copperas oxide, bbls., same basis..lb. .08¼- .904
Para,[5] toner concent., alizarin lake, kgs., works..lb. .70 - —
Phloxin toner (see Red, Eosin toner)
Phosphotungstic rhodamine, Y, kgs., works..lb. 4.15 - —
Purple, lake, kgs.....lb. 1.00 - —
Scarlet ink toner, kgs., works, lb. .55 - —
Lake, alizarin, kgs., works lb. .35 - —
Spanish oxide, grade 1, c.l., bbls..lb. .04¾- .07¾
Toluidin toner, alizarin lake, kgs., works..lb. 1.05 - —
M.N.P.T. maroon toner, kgs., works..lb. 3.25 - —
Turkey, bbls., works.....lb. .14½- —
Tuscan, bbls., E. St. L.....lb. .11 - .40
Venetian, 5%, bbls., works..lb. .0220- —

Wonder of the Western World

Few regions in America have had such a dramatic history as that which centers about Niagara. It was strategic territory from the time of its discovery by the LaSalle Expedition in 1678, in the struggles during the French and Indian Wars and the Revolution. Today it is still a strategic territory, in that it is an area of vast industrial activity from which America derives electric power and great quantities of materials, such as chemicals and other products essential to the successful waging of the war.

As a chemical company noted for its pioneering activities, Niagara Alkali Company carries on the traditions of this region through the stepped-up production of essential chemicals and energetic cooperation with the industries that use them.

CAUSTIC POTASH · CAUSTIC SODA · PARADICHLORO-BENZENE · CARBONATE OF POTASH · LIQUID CHLORINE

An Essential Part of America's Great Chemical Enterprise

Niagara ALKALI COMPANY

60 EAST 42nd STREET, NEW YORK 17, N. Y.

Red, Venetian, 10%, bbls., works, lb. .0245- —
15%, bbls., works....lb. .0265- —
20%, bbls., works....lb. .02¾- —
25%, bbls., works....lb. .03 - —
30%, bbls., works....lb. .03½- —
35%, bbls., works....lb. .0360- —
40%, bbls., works....lb. .04 - —
Vermilion, Amer., bbls....lb. .25 - .40
Quicksilver, bbls....lb. 3.05 - 3.15
Red precipitate,[2] NF, powd., fib. dms., 50 lbs...lb. 3.26 - —
Red saunders wood, grd., bbls., lb. .35 - —
Resorcinal,[3] tech., dms., frt. alld. E. of Miss...lb. .68 - .75
USP, cryst., dms., 100 lbs., frt. alld. E. of Miss...lb. 1.80 - —
Rhatany root, bgs....lb. .12 - .13
Rhubarb, whole, cs....lb. 1.15 - 1.35
powd., bbls....lb. 1.20 - 1.40
Riboflavin,[4] bots....kilo. 490.00 - —
Rice bran concentrate, dms., Cedartown, Ga., or Emeryville, Calif., seller's option. lb. .79 - —
Rochelle salt, cryst., bbls., 5,000 lbs., 1 ship't...lb. .43½- —
smaller lots....lb. .44 - .47
powd., bbls., 5,000 lbs., 1 ship't. lb. .42½- —
smaller lots....lb. .43 - .46
Rose flowers, pale, bls....lb. .40 - .50
Rosemary flowers, bls....lb. 1.55 - 1.60
Leaves, Portuguese, bls....lb. .10¼- .10¾
Spanish, bls....lb. .16½- .17
Rosin, gum—
B, dms....100 lbs. 3.76 - —
D, dms....100 lbs. 4.20 - —
E, dms....100 lbs. 4.70 - —
F, dms....100 lbs. 4.71 - —
G, dms....100 lbs. 4.73 - —
H, dms....100 lbs. 4.73 - —
I, dms....100 lbs. 4.73 - —
K, dms....100 lbs. 4.86 - —
M, dms....100 lbs. 4.89 - —
N, dms....100 lbs. 4.99 - —
W.G., dms....100 lbs. 5.75 - —
W.W., dms....100 lbs. 6.20 - —
X, dms....100 lbs. 6.20 - —
Wood, F.F., dms....100 lbs. 3.64 - 3.96
Rottenstone, bgs., c.l., mines..ton. 25.50 - —
l.c.l., same basis....ton. 37.50 - —
Rue, bls....lb. 1.45 - 1.50

S

Sabadilla seed, powd., bbls....lb. .29 - .31
Saccharin,[1] soda (soluble), dms., makers, primary distrib., 1,000 lbs. up..lb. 1.30 - 1.35
smaller lots....lb. 1.40 - 1.60
Saffron, Mexican, bls....lb. .54 - .55
Spanish, tins....lb. 27.50 - 28.00
Safrol, cns....lb. 2.00 - 2.25
Sage,[1] Cyprus, good, bls....lb. .27 - .27½
fair, bls.,. lb....lb. .24½- .25
Spanish, bls....lb. .27½- .28
Sago flour, bgs....lb. .05 - .05¾
Salicin, bots., 5 lbs....lb. No stocks
cns., 25 lbs....lb. No stocks
Salol, gran., bbls., kgs....lb. .90 - —
fib. dms....lb. .92 - .93
powder, 10c. per lb. higher.
Salt, rock, bgs., c.l....ton. 14.20 - —
l.c.l., bgs....ton. 17.00 - 18.00
vacuum, common, fine, bgs., c.l...ton. 15.70 - —
l.c.l....ton. 19.40 - 23.20
Saltcake, dom., bulk, works. ton. 15.00 - —
Chrome (see Chrome cake).
Saltpeter, dbl. ref., gran., bbls., 10 tons..100 lbs. 8.20 - —
smaller lots....100 lbs. 8.35 - 8.60
powd., bbls., 10-20 tons....100 lbs. 9.20 - —
smaller lots....100 lbs. 9.35 - 9.60
Sanguinarine nitrate, bots....oz. 3.75 - —
Santonin, crys., cns....kilo. 210.00 - 220.00
Saponin, No. 1 cns....lb. 1.75 - 1.90
No. 2 cns....lb. 1.40 - —
Sarsaparilla root, Amer., bls..lb. .25 - .30
Honduras, bls....lb. .89 - .90
Mexican, bls....lb. .20 - .21
Sassafras bark, ord., bls....lb. .20 - .21
select, bls....lb. .50 - .55
Savory, dom., Calif., bls....lb. .90 - .96
Spanish, bls....lb. .75 - .76
Phila., bls....lb. .72 - .74
Saw palmetto berries, bgs....lb. .09 - .14
Scammony resin, lump, cns...lb. 1.30 - —
powd., cns....lb. 1.35 - —
Root, bgs....lb. .07 - .09
Schaeffer's salt, bgs....lb. .46 - —
Scullcap, Eastern, bls....lb. No stocks
Seidlitz mixture, bbls., 6,000 lbs., 1 shipment..lb. .33¾- —
smaller lots....lb. .34¼- —
kegs, 5,000 lbs., 1 shipm't..lb. .34¼- —
smaller lots....lb. .34¾- —
Selenium, pwd., cs., 100 lbs..lb. 1.75 - —
cns., 10 lbs....lb. 1.85 - —
Senega root, spot, bls....lb. .90 - .95
Senna, Alex., half leaf, bls...lb. .22 - .28
siftings, bgs....lb. .22 - .24
Tinnevelly, No. 1, bls....lb. .16 - .16¼
2, bls....lb. .11½- .12
3, bls....lb. .10 - .10¼
powd., bbls., bxs....lb. .15 - .17
Pods, bls....lb. .13 - .16
Serpentaria root, bls....lb. .80 - .82
Sesame seed,[1] Chinese, hulled, bgs..lb. .13½- .14
Indian, hulled, sterile, bgs.lb. .14¾- .15¼
natural, bgs....lb. .11 Nom.
Shellac,[1,6] bonedry, bbls., 1,500 lbs..lb. .42½- —
Boston....lb. .43½- —
Chicago....lb. .44 - —
Pacific coast....lb. .46 - —
refined, bbls., 1,500 lbs....lb. .48½- —
Boston....lb. .49¼- —
Chicago....lb. .50 - —
Pacific coast....lb. .52 - —
Bonedry shellac, sales of less than 1,500 lbs., at following additions to maximum prices:—(1) packed in bgs., ¾c. per lb., (2), bbls., 1c. more: (3) kgs., 3c. more.
D.C., U.S.O., Diamond I, bgs., lots of 100..lb. .4660- —
Garnet, bgs., lots of 100....lb. .3690- —
Superfine, bgs., Boston, N. Y., lots of 100..lb. .3660- —
Chicago, lots of 100....lb. .3710- —
Pacific coast, lots of 100..lb. .3960- —
T.N., bgs., Boston, N. Y., lots of 100..lb. .3550- —
Chicago, lots of 100....lb. .3600- —
Pacific coast, lots of 100...lb. .3805- —
Shellac in cs. 2c. higher. Shellac sales. 1 bg. or 1 cs., 5c. additional; 1 to 9 bgs. or cs., 2c. more; 10 to 99 bgs., cs., 1c. more.
Shortening, tres....100 lbs. 16.50 - 17.00
Silica, amorph., dry-grd., 325 mesh, bgs., c.l., Ill., works. ton. 17.00 - —
l.c.l., same basis....ton. 20.00 - —
400 mesh, bgs., c.l., same basis..ton. 18.00 - —
l.c.l., same basis....ton. 19.00 - 20.00
wet-grd., 325 mesh, bgs., c.l., same basis..ton. 18.00 - —
l.c.l., same basis....ton. 21.00 - —
400 mesh, bgs., c.l., same basis..ton. 30.00 - —
l.c.l., same basis....ton. 35.00 - 38.00

Silica, amorph., wet-grd., 96-98% 325 mesh, bgs., c.l., same basis..ton. 20.00 - —
l.c.l., same basis....ton. 21.50 - 23.00
99% 325 mesh, bgs., c.l., same basis..ton. 20.00 - —
l.c.l., same basis....ton. 22.00 - 25.00
hard-quartz, 99½%, 325 mesh, bgs., c.l., same basis..ton. 15.50 - —
l.c.l., same basis....ton. 18.50 - —
140 mesh, bgs., c.l., same basis..ton. 11.00 - —
l.c.l., same basis....ton. 16.00 - —
Silicon tetrachloride, tech., dms., 55 gals., c.l., works..lb. .15½- —
l.c.l., works....lb. .15½- —
10 gals., works....lb. .27 - —
Silver, bullion....oz. .44¾- —
govt. purchase, dom....oz. .7111- —
govt. purchase,[1] foreign....oz. .44¾- —
Cyanide, cns., 100 ozs....oz. .41½- —
Nitrate, 100-oz. bots....oz. .32⅜- —
Nucleinate, bots., dms....oz. .308 - .358
Proteinate, bots., dms....oz. .288 - .338
Simarubra bark, bls....lb. .60 - .67
Skunk cabbage root, bls....lb. No stocks
Slate flour, bgs., c.l., works..ton. 11.00 - 12.00
l.c.l., works....ton. 12.00 - 13.00
Slun berries, bgs....lb. .75 - .80
Smalt, black, ctns....lb. .05 - .06
Blue, ctns....lb. .07 - .08¼
Snakeroot, Canada, bls....lb. .40 - .42
Soapbark, bls....lb. .11¾- .12¼
crushed, bls., bbls....lb. .13 - .14
cut, dom., bls., bbls....lb. .16 - .17
imp., bbls....lb. .18 - .19
powd., bbls....lb. .17 - .18
Soda acetate, anhyd., bbls., dlvd. lb. .08½- .10
flake, gran., powd., 60%, bbls., c.l., dlvd..lb. .05 - —
l.c.l., dlvd....lb. .05½- .06
N. F. VII, bbls., dlvd....lb. .09¼- .10
Alginate, refined, water-soluble, bbls., works..lb. .79 - —
semi-refined, bbls., works..lb. .42 - —
white, powd., dms....lb. 1.50 - 1.80

Soda Aluminate,[6] for water treat., bgs., c.l., works..100 lbs. 7.50 - —
l.c.l., works....100 lbs. 8.40 - —
other uses, bgs., c.l., works, 100 lbs. 7.00 - —
l.c.l....100 lbs. 7.50 - 8.00
Antimoniate, bbls., dlvd....lb. .15 - .15⅛
Arsenate,[6] dms., dealers, c.l., works..lb. .09½- —
l.c.l., same basis....lb. .10¾- .11⅛
Arsenite,[6] gray, dms., c.l., dealers, works..lb. .08¼- —
l.c.l., dealers, works....lb. .09 - .10
Soda, arsenite, gray, ¾c. higher in Chi.; 2c. higher in Houston, Tex., and Palo Alto, Calif.
Ash, dense, 58%, bgs., c.l., works..100 lbs. 1.15 - —
l.c.l., dlvd., zone 1..100 lbs. 2.18 - —
2....100 lbs. 2.33 - —
3....100 lbs. 2.58 - —
4....100 lbs. 2.98 - —
bbls., c.l., works....100 lbs. 1.35 - —
2....100 lbs. 2.50 - —
3....100 lbs. 2.75 - —
4....100 lbs. 3.15 - —
bulk, c.l., works....100 lbs. .95 - —
extra light, 58%, bgs., c.l....100 lbs. 1.13 - —
l.c.l., dlvd., zone 1..100 lbs. 2.13 - —
2....100 lbs. 2.28 - —
3....100 lbs. 2.53 - —
4....100 lbs. 2.93 - —
bbls., c.l., works...100 lbs. 1.45 - —
l.c.l., dlvd., zone 1....100 lbs. 2.45 - —
2....100 lbs. 2.60 - —
3....100 lbs. 2.85 - —
4....100 lbs. 3.25 - —
bulk, c.l....100 lbs. .99 - —

Soda ash, light, 58%, bgs., c.l., works..100 lbs. 1.05 - 1.13
l.c.l., dlvd., zone 1....100 lbs. 2.13 - —
2....100 lbs. 2.28 - —
3....100 lbs. 2.53 - —
4....100 lbs. 2.93 - —
bbls., c.l., works....100 lbs. 1.35 - —
l.c.l., dlvd., zone 1..100 lbs. 2.35 - —
2....100 lbs. 2.50 - —
3....100 lbs. 2.75 - —
4....100 lbs. 3.15 - —
bulk, c.l....100 lbs. .90 - —
[5]Soda ash sales zones are:—(1) All States E. of Miss. R. and N. of south. bound. of Ky. and Va.; also Ala., La., and Miss., S. of 31°, Tex. E. of 100°, S. of 31°, Fla.; also Me., N.H., and Vt., in which there are special county zones; Davenport, Ia., and St. Louis; (2) Ark. E. of 93°, Ga., Iowa (except Davenport), Minn.; Mo. (except St. Louis), Neb. E. of 98°, N.C., S.C., Tenn., and Tex. N. of 31° and E. of 100° (except Wichita Falls); also Ala., La., and Miss. N. of 31°; (3) Ark. W. of 93°, Kans., Neb., W. of 98°, N.D., Okla., S.D., Tex. W. of 100° (including Wichita Falls (excluding El Paso); (4) Ariz., Colo., Idaho, Mont., Nev., N. M., Utah, Wyo., and El Paso, Tex.
Benzoate, tech., bbls., 2 tons or more..lb. .39 - —
smaller lots....lb. .40 - .43
USP, dms., 2 tons or more..lb. .46 - —
smaller lots....lb. .47 - .52
Bicarbonate, tech., bbls., c.l., works..100 lbs. 1.70 - —
l.c.l....100 lbs. 2.05 - —
bgs., c.l., works....100 lbs. 1.55 - —
l.c.l....100 lbs. 1.90 - —
USP, gran., bbls., c.l., wks. 100 lbs. 2.25 - —
l.c.l....100 lbs. 2.60 - —

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You don't have rustlers in your business, of course—but you do have competitors who are just as anxious as you to win favor with the public. That's why you have to protect your brand by maintaining the quality your customers have learned to expect.

When you use Columbia Bicarbonate of Soda, you can be certain that it will uphold the standards that have earned a market for your brand. Be sure your next contract calls for Columbia Bicarbonate of Soda.

Columbia U. S. P. Bicarbonate of Soda—Meets or surpasses U.S.P. standards in every respect. Pure, white, uniform particle size. In either powdered or granular form.

Columbia Technical Bicarbonate of Soda—An excellent grade used extensively for leather and textile manufacturing, gold and platinum plating, fire extinguishers, sponge rubber, timber mold prevention, treatment of wool and silk, ceramics. In either powdered or granular form.

PITTSBURGH
PLATE GLASS COMPANY
COLUMBIA CHEMICAL DIVISION
GRANT BUILDING . . . . . PITTSBURGH (19), PA.
CHICAGO • BOSTON • CINCINNATI • PITTSBURGH • PHILADELPHIA
NEW YORK • ST. LOUIS • CLEVELAND • MINNEAPOLIS • CHARLOTTE

COLUMBIA CHEMICALS

SODA ASH • CAUSTIC SODA • LIQUID CHLORINE • SODIUM BICARBONATE • SILENE E F (Hydrated Calcium Silicate) • CALCIUM CHLORIDE
SODA BRIQUETTES • MODIFIED SODAS • CAUSTIC ASH • PHOSFLAKE • CALCENE (Precipitated Calcium Carbonate) • CALCIUM HYPOCHLORITE

Soda bicarbonate, USP, powd., bbls., c.l., works..100 lbs. 1.85 - —
l.c.l. .....100 lbs. 2.51 - —
kgs., c.l., works....100 lbs. 2.10 - —
l.c.l. .....100 lbs. 2.76 - —
Bichromate,[6] spot, bbls., cks., c.l., works..lb. .07⅝- —
l.c.l., works.....lb. .07⅛- .07⅝
Soda bichromate in bgs., ¼c. less.
Bifluoride, bbls., c.l., frt. alld. E..lb. .11½- —
l.c.l., same basis.....lb. .12 - .14
kgs., l.c.l., same basis.....lb. .12½- .14
Bisulphite, powd., bbls., c.l., works..100 lbs. 3.00 - 3.10
l.c.l., works.....100 lbs. 3.50 - 3.60
solution, 32°, bbls., c.l., works. 100 lbs. 1.30 - —
l.c.l., works.....100 lbs. 1.55 - —
30°, bbls., c.l., works.100 lbs. 1.35 - —
l.c.l., works.....100 lbs. 1.30 - —
35°, bbls., c.l., works.100 lbs. 1.40 - —
l.c.l., works.....100 lbs. 1.65 - —
44°, bbls., works.....100 lbs. 1.55 - —
l.c.l. works.....100 lbs. 1.80 - —
Bromide, NF, gran., bbls., 500 lbs., works..lb. .27 - .30
fiber, dms., works, 100 lbs. lb. .28 - .31
Cacodylate, 5-lb. bots., works. lb.17.00 - —
Carbonate (see Soda ash, soda monohydrated soda sal.)
Caustic, flake, powd., 76%, dms., c.l., works..100 lbs. 2.70 - —
l.c.l., zone 1, dlvd.... 100 lbs. 3.55 - —
2, dlvd.....100 lbs. 3.70 - 5.05
3, dlvd.....100 lbs. 3.95 - 5.30
4, dlvd.....100 lbs. 4.35 - 5.70
liquid, 47-49%, buyers tanks, works..100 lbs. 1.92½- —
sellers' tanks, works.... 100 lbs. 1.98 -
Soda caustic, liquid, 70%, buyers tanks, works..100 lbs. 1.97½- —
sellers' tanks, works.... 100 lbs. 2.60 - —
solid, 76%, dms., c.l., works, 100 lbs. 2.30 - —
l.c.l., zone 1, dlvd..... 100 lbs. 3.15 - —
2, dlvd.....100 lbs. 3.30 - —
3, dlvd.....100 lbs. 3.55 - —
Caustic soda zones are same as soda ash.
Chloride (see Salt).
Chlorate,[6] dom., cryst., bgs., c.l., works..lb. .06½- —
l.c.l., works.....lb. .06½- —
powd., bgs., c.l., works..lb. .06½- —
l.c.l., works.....lb. .07 - .08½
Chromate,[3,6] bbls., cks., c.l., works, frt. equald..lb. .08⅝- —
l.c.l., works, frt. equald..lb. .08⅞- .09⅛
Soda chromate in bgs. is ½c. lower.
Citrate, USP VIII, bbls.....lb. .18½- —
dms. .....lb. .19½- .23½
USP gran., bbls.....lb. .24 - —
dms. .....lb. .24 - .29
powd., bbls.....lb. .24½- —
dms. .....lb. .24¾- .29½
Cyanide,[6] 96-98%, dms.....lb. .14½- .15
Diacetate, 33-35% acidity, bbls., dlvd..lb. .09½- .10⅝
anhy., dms., dlvd.....lb. .12½- —
Fluoride, white, 90%, bbls., c.l., works..lb. .07 - —
l.c.l., works.....lb .08 - —
95%, bbls., c.l., works..lb. .07¼- —
l.c.l., wdrks.....lb. .08¼- —
Soda fluoride prices at Los Angeles are f.a.s. works.
Glutamate, monobasic, kgs..lb. 1.04 - —
Glycerophosphate, NF, cryst., bbls., 1,000 lbs..lb. 1.25 - —
smaller lots.....lb. 1.40 - 1.65
powdered, 5c. higher.
solution, cbys., cns.....lb. .82 - .90
Soda hydrosulphite, dms., frt. alld..lb. .17 - .18
Hydroxide, USP, sticks, dms.lb. .24½- .26
Hypophosphite, NF, cns.....lb. .67 - .70
Hyposulphite, cryst., bgs., c.l., works, frt. equald..100 lbs. 2.25 - —
l.c.l., same basis..100 lbs. 2.50 - —
pea, bgs., c.l., works.100 lbs. 2.60 - —
l.c.l., works.....100 lbs. 2.75 - 2.95
Soda hyposulphite in bbls., 20c. higher; in dms., 50c. higher.
Iodate, dms., jars.....lb. 5.40 - 5.45
Iodide, bots.....lb. 2.53 - 2.57
dms., jars.....lb. 2.42 - —
Mandelate, dms.....lb. 3.25 - 3.35
Metanilate, bgs.....lb. .40 - —
Metasilicate, anhyd., dms., c.l., works, frt. equald..100 lbs. 4.00 - —
l.c.l., same basis..100 lbs. 4.90 - 5.30
gran., bbls., c.l., works, frt. equald..lb. 2.50 - —
l.c.l., dlvd.....100 lbs. 3.30 - 3.55
Molybdate,[6] anhyd., kgs., works lb. .47 - —
Monohydrated, bbls.....100 lbs. 3.00 - —
works .....100 lbs. 2.55 - —
Naphthionate, bbls.....lb. .50 - —
Nitrate,[6] crude, dom., 100-lb. bgs., c.l., works..ton.30.05 - —
bulk, same basis.....ton.27.00 - —
imp., 100-lb. bgs., c.l., Atl., Gulf, Pac., whse..ton.33.00 - —
200-lb. bgs., same basis.. ton.32.40 - —
bulk, same basis.....ton.30.00 - —
refd., gran., bbls., 10 tons... 100 lbs. 3.60 - —
smaller lots.....100 lbs. 3.75 - 4.00
Nitrite, 96-98%, dom., bbls., c.l., works, frt. equald..lb. .06¾- —
West Coast ports..... 100 lbs. 3.00 - 3.65
l.c.l., dlvd.....100 lbs. 3.90 -11.90
Soda orthosilicate, anhyd., dms., c.l., works, frt. equal..lb. 4.50 - —
l.c.l., same basis.100 lbs. 5.45 - 5.85
flake, dms., c.l., wks..100 lbs. 3.15 - —
l.c.l., dlvd.....100 lbs. 4.30 - 4.55
Oxalate, neut., bbls.....lb. .10 - .11
Perborate, NF, bbls., c.l., works..lb. .14¾- —
l.c.l., works.....lb. .15¼- —
Pentachlorophenate briquets, bgs., works, frt. equald..lb. .17 - .18
powd., bgs., c.l., works, frt. equald..lb. .16 - .16½
l.c.l., works, frt. equald..lb. .17 - —
kgs., works, frt. equald..lb. .19 - —
Peroxide, dms., c.l., dlvd. 2. of Miss..lb. .14 - —
smaller lots.....lb. .17 - —
Phosphate,[6] dibasic, tech., anhyd., bgs., c.l., works..... 100 lbs. 6.00 - 6.25
l.c.l., works....100 lbs. 6.50 - 7.25
cryst., bgs., c.l., works.... 100 lbs. 2.55 - 2.70
l.c.l., works....100 lbs. 2.95 - 3.45
USP, bbls., dms., works..lb. .08 - .10
dried, bbls., dms., works. lb. .11½- .12
monobasic, anhydrous, bgs., c.l., works..100 lbs. 7.25 - 8.35
l.c.l., works.....100 lbs. 8.00 - 9.00
tribasic,[6] anhydrous, bgs., c.l., works, frt. equald..100 lbs. 6.00 - —
l.c.l., same basis.100 lbs. 6.50 - —
cryst., bgs., c.l., same basis..100 lbs. 2.70 - —
cryst., bgs., l.c.l., same basis..100 lbs. 3.45 - —
kgs., c.l., works..100 lbs. 3.40 - —
l.c.l., works....100 lbs. 4.15 - —
USP (see Sodium phosphate, dibasic).
Soda phosphate in bbls. is 20c. higher.
Picramate, kgs.....lb. .65 - —
Prussiate, yellow, bgs., contracts, works..lb. .09¾- .10¼
spot .....lb. .10¾- —
bbls., contract, works....lb. .10 - .10¼
spot .....lb. .11 - —
Pyrophosphate,[6] anhyd., bgs., c.l., works, frt. equald.. 100 lbs. 5.28 - 6.10
l.c.l., same basis..100 lbs. 5.40 - 6.60
bbls., c.l., wks., frt. equald, 100 lbs. 5.45 - 6.30
l.c.l., same basis..100 lbs. 5.60 - 6.60
Ricinoleate, tech., bbls.....lb. .12 - —
Sal, bgs.....100 lbs. 1.35 - —
works .....100 lbs. 1.10 - —
bbls. .....100 lbs. 1.40 - —
works .....100 lbs. 1.20 - —
Salicylate, bbls., dms., kgs..lb. .82 - .85
Sesquicarbonate, bgs., c.l., works..100 lbs. 1.50 - —
bbls., c.l., works.....100 lbs. 1.70 - —
l.c.l., zone 1, dlvd..100 lbs. 2.70 - —
2, dlvd.....100 lbs. 2.85 - —
3, dlvd.....100 lbs. 3.10 - —
4, dlvd.....100 lbs. 3.50 - —
Soda sesquicarbonate l.c.l. price zones are same as those for soda ash.
Sesquisilicate, dms., c.l., works. 100 lbs. 3.05 - —
l.c.l., dlvd.....100 lbs. 4.05 - 4.30
Silicate, 40° turbid., dms., c.l., works..100 lbs. .80 - —
l.c.l., works.....100 lbs. 1.05 - 1.20
tanks, works.....ton.13.00 - —
42°, dms., c.l., works..100 lbs. 1.40 - —
l.c.l., works.....100 lbs. 1.65 - 1.80
tanks, works.....ton.25.00 - —
Silicofluoride, bbls., c.l., works, lb. .06 - —
l.c.l., same basis.....lb. .06½- .07
Stannate, dms., works, frt. alld. E...lb. .32½- .36⅛
Stearate, bbls., works.....lb. .19 - .24
Sulphate, NF, dried, powd., bbls...lb. .07 - .07⅛
tech., anhyd., bgs., bbls., c.l., works..100 lbs. 1.70 - 1.90
5 tons or more, wirks... 100 lbs. 1.95 - 2.15
less than 5 tons, works. 100 lbs. 2.20 - 2.40
cryst. (see Glauber's salt).
USP, cryst., gran., cns..lb. .10 - .10⅛
Sulphide, cryst., bbls., c.l., works..100 lbs. 2.40 - —
l.c.l., dlvd.....100 lbs. 2.90 - 3.15
solid, bbls., c.l., works.100 lbs. 3.15 - —
l.c.l., dlvd.....100 lbs. 3.65 - 3.90
Sulphite, cryst., bgs., works... 100 lbs. 2.10 - 2.35
bbls., same basis.....100 lbs. 2.30 - 2.55
powd., bbls., c.l.....100 lbs. 5.25 - —
l.c.l. .....100 lbs. 5.50 - 6.00
Sulphocarbolate, USP IX, gran., bbls., dms..lb. .28 - .33
powd., bbls.....lb. .30 - .31
Sulphocyanide, CP, dms.....lb. .55 - .65
Sulphohydrate, liquid, 38%, basis 100%, dms., c.l., works. lb. .06½- —
l.c.l., works.....lb. .06 - .08
tanks, works.....lb. .04½- —
flake, 70-72%, dms., c.l., works..lb. .04½- —
l.c.l., works.....lb. .05 - —
Sulphoricinoleate, bbls.....lb. .12 - —
Thiosulphate (see Soda hyposulphite).
Tungstate,[6] tech., kgs.....lb. 1.35 - 1.50
Soda-formaldehyde sulphoxylate, stand cont. (125-250 lbs.).lb. .19 - .22
Solvent naphtha, dms., wks..gal. .31 - —
tanks, frt. alld. E. of Omaha. gal. .27 - —
Minnequa, Colo.....gal. .27 - —
high-flash, dms., works...gal. .32 - —
tanks, frt. alld. E. of Omaha. gal. .27 - —
Sorbitol,[6] com'l, dms., works..lb. .17¾- —
Soybean meal,[3] 41%, Decatur, bulk, c.l..ton.45.00 - —
Protein, alpha, bgs., 40,000-60,000 lbs., works..lb. .17 - —
smaller lots, works....lb. .17½- .17⅝
Sparteine sulphate, bots., cns..oz. 2.25 - 2.75
Spearmint leaves, bls.....lb. .35 - .36
Spikenard root, bls.....lb. .50 - .55
Spruce extract, reg., bbls., c.l., works..lb. .02½- —
tanks, works.....lb. .01½- —
pwd., super, bgs., c.l., wks.lb. .04½- —
Squawvine leaves, bls.....lb. .14 - .15
Squill, red, powd.....lb. .85 - .88
White, bls.....lb. .14 - .16
powd., bbls., bxs.....lb. .18 - .19
St. Ignatius beans, bgs.....lb. .43 - .60
St. John's bread, edible, bls...lb. .17 - .18
Starch, corn, pearl, bgs..100 lbs. 3.46 - —
Chicago .....100 lbs. 3.10 - —
powd., bgs.....100 lbs. 3.56 - —
Chicago .....100 lbs. 3.20 - —
Potato, bgs., c.l.....lb. .0637- —
l.c.l. .....lb. .0712- —
Rice, bgs.....lb. .09½- .10¼
Sweetpotato, bgs.....lb. No stocks
Wheat, thick boil, bgs.....lb. .06 - —
Starch iodide, bots.....lb. 1.87 - —
Stearin, oleo (see Oleostearin).
Stillingia root, bls.....lb. .11 - .12
Stoneroot, bls.....lb. .07½- .08
Storax, cs.....lb. 1.35 - 1.50
Stramonium leaves, bgs.....lb. .22 - .23
Seed, bgs.....lb. .20 - .21
Strontium bromide, cns., dms..lb. .52 - .54
Carbonate, 90%, bbls.....lb. .14 - .16
98%, bbls.....lb. .23 - .25
Chloride, tech., bbls.....lb. .22 - .24
Chromate, bbls., kgs., Phila..lb. .35 - .37

PENN SALT

CAUSTIC SODA

Prompt shipments in tank cars specially designed for fast, easy, safe unloading

● Order your caustic soda from Penn Salt and enjoy the advantages of quick shipment, clean caustic and speedier handling.

Penn Salt's special tank cars are built with protective lining, special draining plates and caustic-resistant valves and interior connections. Steam heating coils do *not* contact the caustic soda—eliminating possible contamination.

The improved, insulated design assures *fluid* caustic in cold weather. And the easily accessible fittings save unloading time and prevent waste. Furthermore, the dome safety platform and guard railing protect your workmen.

Penn Salt caustic soda is available in tank car quantities as 50% and 72-73% solutions . . . as a solid in 750 lb. drums . . . or in flake form in 400 lb. and 125 lb. drums.

Technical help on any handling problem without obligation. Write for complete information about Penn Salt caustic soda.

PENNSYLVANIA SALT MANUFACTURING COMPANY
Chemicals
1000 WIDENER BUILDING, PHILADELPHIA 7, PA.
New York • Chicago • St. Louis • Pittsburgh • Minneapolis
Wyandotte • Tacoma

Starch iodide, bots.....lb. 3.06 - 3.15
jars, 25 lbs.....lb. 3.00 - —
Lactate, dms.....lb. 1.30 - 1.35
Nitrate, bbls., c.l., works..lb. .07¾- —
l.c.l., works.....lb. .08¼- .08¾
Oxalate, bbls.....lb. .37¼- —
Salicylate, bbls., kgs.....lb. 1.10 - —
dms.....lb. 1.13 - —
Sulphate, nat., 92% min., air-floated, 300 mesh, c.l., works..ton.52.00 - —
l.c.l., works.....ton.54.00 - —
Strontium-calcium sulphide, phosphorescent, works, frt. alld., lb. 2.50 - 2.85
Strophanthin, bots.....oz.30.00 -87.00
Strophanthus seed, Komba, bgs.. lb. 2.65 - 2.70
Styrolyl acetate, bots.....lb. 2.50 - 3.10
Strychnine, cryst., cns., 100 ozs. oz. .70 - —
powd., cns., 100 ozs.....oz. .60 - —
Acetate, cns., 100 ozs.....oz. .85 - —
Arsenate, cns., 100 ozs.....oz. .91 - —
Arsenite, cns., 100 ozs.....oz. .85 - —
Glycerophosphate, cns., 100 ozs. oz. .89 - —
Hydrochloride, cns., 100 ozs..oz. .85 - —
Hypophosphite, 25-oz. cns., 100 ozs..oz. 1.00 - —
Nitrate, 100 ozs.....oz. .82 - —
Phosphate, 100 ozs.....oz. .89 - —
Sulphate, cryst., cns., 100 ozs. oz. .58 - —
powd., cns., 100 ozs.....oz. .48 - —
Sucrose octa-acetate, denat., bbls., l.c.l., works..lb. .45 - —
tech., bbls., l.c.l., works..lb. .40 - —
Sugar coloring (see Caramel coloring)
Sugar of milk (see Milk sugar)
Sulphadiazin, 100-lb. dms.....lb.11.50 - —
Sulphaguanidin, 100-lb. dms...lb. 5.50 - —
Sulphanilamide, bots.....lb. 1.35 - —
.lb. dms.....lb. .90 - 1.00
Sulphapyridin, powd., bots., tins. lb. 5.00 - 5.50
Sulphathiazole, dms.....lb. 3.50 - —
smaller lots.....lb. 3.60 - 4.00
Sesquihydrate, prices same as sulphathiazole.
Sulphonethylmethane, kgs.....lb. 6.75 - 6.85
Sulphonmethane, kgs.....lb. 5.25 - 5.35
Sulphur, crude, bgs., c.l., works. l.c.l., works.....100 lbs. 2.00 - 2.15
bulk, mines, contracts..... long ton.16.00 - —
f.o.b. vessels, Gulf ports, contract..long ton.17.50 - —
flour, comm'l, 90½%, bgs., c.l., works..100 lbs. 1.65 - —
l.c.l., works.....100 lbs. 2.00 - 2.15
precipitated, USP, bbls., kgs., lb. .18 - .30
refined, flour, extra fine, bgs., 100 lbs. 1.65 - —
c.l., works..100 lbs. 2.90 - —
l.c.l., works.....100 lbs. 3.25 - 3.40
heavy, bgs., c.l., works.... 100 lbs. 2.60 - —
l.c.l., works.....100 lbs. 2.95 - 3.10
light, bgs., c.l., works..... 100 lbs. 2.70 - —
l.c.l., works.....100 lbs. 3.05 - 3.20
USP, bgs., c.l., works.100 lbs. 3.05 - —
l.c.l., works.....100 lbs. 3.40 - 3.55
Refined sulphur in bbls., 35c. higher.
rock, bbls., c.l., works.100 lbs. 2.20 - —
l.c.l., works.....100 lbs. 2.55 - 2.70
roll, bbls., c.l., works..100 lbs. 2.40 - —
l.c.l., works.....100 lbs. 2.75 - 2.90
Chloride, 55-gal. dms., c.l., works..lb. .03 - .03¼
l.c.l., works.....lb. .04 - .04¼
10-gal. dms., c.l., works....lb. .07 - .07¼
l.c.l. .....lb. .08 - .08¼
Dioxide, liquid, cyls., works..lb. .07 - .08
multi-unit cars, works..lb. .04½- .06
tanks, works.....lb. .04 - .06
refrigeration, cyls., works.lb. .15 - .21
multi-unit cars, works..lb. .06½- —
Iodide, bots., jars.....lb. 3.90 - 4.11
Sumac berries, bgs.....lb. .12 - .13
extract, No. 1, bbls.....lb. .08 - —
No. 2, bbls.....lb. .07 - —
stainless, bbls.....lb. .09 - .11
Sunflower seed, Calif., large, bgs. lb. .16½- .17
medium, bgs.....lb. .15½- .16
poultry, bgs.....lb. .14 - .14½
Superphosphate,[1] pulverized, run-of-pile, under 22% a.p.a., bulk, production points, Balto..unit-ton. .64 - —
Florida .....unit-ton. .50 - .53
22%, a.p.a., bulk, prod. points, others..unit-ton. .55 - .84
delivery points, Ariz., Calif., Colo., Ida., Kans., Nev., N.M., Ore., Utah, Wash., 58½c. per unit-ton plus frt. charge from Anaconda, Mont., in excess of $8.03 per ton.
Superphosphate,[1] gran., 2c. per unit-ton higher than pulverized; guaranteed 18%, 19% or 20% a.p.a., ½c. per unit-ton higher.
Triple, 40% and more a.p.a., bulk, producing points, Florida..unit-ton. .62 - —
South Carolina..unit-ton. .65 - —
Tennessee .....unit-ton. .74 - —
Other States and D.C., 62c. per unit-ton plus frt. charge for 48% from E. Tampa, Fla.

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Talc, grd., dom., aluminum-flake type, bgs., c.l., works. ton.14.50 -24.50
l.c.l., works.....ton.16.50 -30.00
Calif., bgs., c.l., works.... ton.17.50 -43.00
N.Y., fibrous, coarse, off-color, bgs., c.l., works..ton.13.00 - —
fine, 325 mesh, 93-94%, bgs., c.l., works..ton.13.00 -18.00
98-99.5%, bgs., c.l., wks. ton.15.25 -19.25
99.85-99.95%, bgs., c.l., works..ton.17.00 -21.00
Pennsylvania, bgs., c.l., works..ton.11.00 -13.50
l.c.l., works.....ton.12.00 -14.50
Vermont, bgs., c.l., works. ton.14.00 - —
l.c.l., works.....ton.15.00 - —
imp., Canad., bgs., c.l....ton.24.00 -30.00
Tallow,[1,5] edible, tanks.....lb. .09¾- —
inedible, extra, loose.....lb. .08¾- —
special, loose.....lb. .08½- —
sulphonated, 35% (24% fat), dms., c.l..lb. .05¾- —
50% (43% fat), dms., c.l...lb. .06½- —
50% (48% fat), dms., c.l..lb. .07¾- —
Tallow, sulphonated, l.c.l., 1c. higher.
Tamarind, bbls.....lb. .10 - .12
kegs .....keg. 7.45 - —
Tankage, animal, feed, 9-11% ammon., bulk..unit-ton. 5.53 - —
Chicago .....unit-ton. 5.53 - —
fert. grd., 9% ammon., 10% b.p.l., bulk..unit-ton. 4.00 & .10
10-11% ammon., 15% b.p.l., bulk, Chicago..unit-ton. 4.00 & .10
Tansy leaves, bls.....lb. .23 - .24
Tapioca flour,[1,5] Brazil, bgs...lb. .07¼- —
Java, bgs.....lb. .07¼- —

Tar acid oil,[2,6] 16%, dms., c.l., works..gal. .27½- —
l.c.l., works.....gal. .29½- —
25%, dms., c.l., works....gal. .30 - .31½
l.c.l., works.....gal. .32 - .33½
Pine, retort, dms., East....gal. .30 - .33
tanks, East.....gal. .24¼- —
Tara, powd.....ton.145.00 Nom.
Tarragon herb, bgs.....lb. 1.70 - 1.75
Tartar emetic, tech., gran. or powd., bbls., kgs..lb. .47¾- .48
dms.....lb. .48½- .51
USP, powd., bbls.....lb. .52¾- .53
Terpin hydrate, cryst., bbls., dms. lb. .70 - .75
powd., bbls., dms.....lb. .75 - .80
Terpineol, dms.....lb. .35 - .50
alpha (see A).
Terpinyl acetate, extra, cns., dms..lb. .90 - 1.15
prime, cns., dms.....lb. .75 - 1.05
Terpinylglycol ether, dms. (extra), c.l., works..lb. .19½- —
l.c.l., works.....lb. .20 - —
tanks, works.....lb. .19 - —
Terra alba (see Gypsum).
Tetrachloroethane, dms., wks.lb. .08 - .08½
Tetrachlorethylene, N.F., VI, 55-gal. dms., works..lb. .20 - .21½
smaller dms., works.....lb. .23½- .25½
tech. (see Perchloroethylene).
Tetralin, dms.....lb. .19 - —
Tetrasodium pyrophosphate (see Soda pyrophosphate).
Thallium sulphate, 99%, bots., works..lb.12.50 - —
Theobromine,[1,6] makers, primary distrib., dms., 25-lb. lots..lb. 2.80 - —
smaller lots.....lb. 2.90 - 3.00
Thiamine hydrochloride,[6] bots., dms., 100 grams..kilo.290.00 - —
50 grams, bots.....gram. .32 - —
25 grams, bots.....gram. .34 - —
1 gram, bots.....gram. .39 - —

Thiocarbanilide, dms.....lb. .24 - —
Thiourea, CP, dms.....lb. .55 - .56
Thorium nitrate, cs., works....lb. 2.00 - —
Thyme,[1] California, French-type, bls..lb. 1.60 - 1.70
Morocco, bls.....lb. .21 Nom.
Spanish, bls.....lb. .23½- .24
golden, bls.....lb. .23½- .24
French type, bls.....lb. .24½- .25
Thymol, cns.....lb. 2.40 - 2.75
Iodide, bots.....lb. 3.88 - 4.19
dms.....lb. 3.40 - 3.80
Tikitiki (see Rice bran).
Timbo root,[3,6] (see Cube root).
Tin chloride, anhydrous.....lb. No stocks
Crystals, bbls., bgs.....lb. No stocks
Metal,[1,6] Straits.....lb. .52 - —
Oxide, bbls.....lb. No stocks
Tetrachloride, anhyd., dms., works..lb. .31 - .33
Titanium dioxide,[1] chalk resistant, bgs., c.l., dlvd..lb. .15 - —
l.c.l., 5 tons one deliv., dlvd..lb. .15¼- —
smaller lots, dlvd....lb. .15½- .15¾
nonchalking, bgs., c.l., dlvd. E..lb. .16½- —
l.c.l., 5 tons one deliv., dlvd..lb. .16¾- —
smaller lots, dlvd.....lb. .17 - .17¼
plain bgs., c.l., dlvd.....lb. .14½- —
l.c.l., 5 tons one delivery, dlvd..lb. .14¾- —
smaller lots, dlvd.....lb. .15 - .15¼
Hydride, cns., works.....lb. 7.00 - 8.00
Pigment, barium base, bgs., c.l., dlvd..lb. .05¾- —
l.c.l., dlvd.....lb. .06 - —
calcium base, bgs., c.l., dlvd., lb. .05½- —
l.c.l., dlvd.....lb. .05¾- —
calcium-rutile base, bgs., c.l., dlvd..lb. .05½- —
l.c.l., dlvd.....lb. .05¾- —

Titanium, pigment, magnesium base, bgs., c.l., dlvd..lb. .05¾- —
l.c.l., dlvd.....lb. .06 - —
Titanium dioxide and pigment in bbls. ¼c. higher; Pac. cst., ¼c. higher, c.l., dlvd., l.c.l., ex whse.
Tetrachloride, CP, dms., works, 55-gal..lb. .57 - —
smaller pkgs. works.....lb. .65 - 1.25
technical, 55-gal. dms., works. lb. .32 - —
smaller pkgs., works.....lb. .40 - 1.00
Tolu balsam, cns.....lb. .80 - .83
Toluene (see Toluol).
Toluidin base, distilled, kgs...lb. .96 - —
mixed, dms.....lb. .26 - —
Toluol[6] (toluene), 2° indus., dms., return..gal. .33 - —
tanks, E. of Omaha, frt. alld. to 2c. per gal..gal. .28 - —
West, Minnequa, Colo...gal. .28 - —
1° nitration, dms., return..gal. .34½- —
tanks, E. of Omaha, frt. alld. to 2c. per gal..gal. .29¼- —
West, Minnequa, Colo...gal. .29¾- —
Tonga, 50% bark and vine, bbls.lb. .90 - .95
Tonka beans, Angostura, cks..lb. 2.50 - 2.80
Brazilian, Surinam, cs.....lb. .80 - .85
Totaquine,[1] USP XII, 100 oz..oz. .30 - —
smaller lots.....oz. .33 - .36
Triacetin, dms.....lb. .34 - —
Triamyl borate, dms., works...lb. .33 - —
Triamylamine, dms., c.l., works. lb. .98 - —
l.c.l. .....lb. 1.01 - —
Tributyl citrate, 475-lb. dms..lb. .29 - .31
smaller pkgs.....lb. .34 - .40
Phosphate, dms., l.c.l., dlvd..lb. .47 - —
cns., works.....lb. .51 - —
Tributylamine, dms., c.l., works. lb. .78 - —
l.c.l. .....lb. .81 - —

4 TITANOX PIGMENTS
ARE "IN THE SERVICE"...
TITANOX pigments are available to meet Army-Navy specifications for white and light tinted finishes. Four of them are particularly adaptable and are being used in large volume in both exterior and interior coatings. For example:
TITANOX-RC (rutile calcium pigment) for camouflage coatings—Because of durability, tint retention, economy
TITANOX-RC-HT (rutile calcium pigment—high tinting) for interior finishes—(ships and buildings)—Because of 20 to 30% higher hiding than anatase type pigment
TITANOX-A, No. 168, L.O. (titanium dioxide) for interior finishes (tanks or any confined area where high reflectivity is required)—Because of high brightness and excellent color
TITANOX-AA (titanium dioxide) for exterior finishes (housing, army-navy aircraft where moderate chalking resistance is required)—Because of high hiding with good chalking resistance and good durability
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TITANOX
THE WHEEL HORSE OF THE PAINT INDUSTRY
Our Paint Service Department offers technical cooperation
THE WHEEL HORSE OF THE PAINT INDUSTRY CARRIES ON!
TITANOX
TRADE MARK

Trichlorobenzene, dms., c.l., frt. alld..lb. .08 - —
l.c.l., same basis.....lb. .08½- —
tanks .....lb. .07½- —
Trichloroethylene,[3] dms., c.l., works, frt. alld. Zone 1..lb. .08 - —
Zone 2, same basis.....lb. .08½- —
Zone 3, same basis.....lb. .09 - —
Zone 4, ex whse.....lb. .09 - —

Trichloroethylene l.c.l., prices, ½c. higher. Zones are:—(1) Conn., Del., Ill., Ind., Ia., Ky., Me., Md., Mass., Mich., Minn., Mo., N.J., N. Y., N.C., Ohio, Pa., R.I., Tenn., Vt., Va., W. Va., Wis., Omaha, K.C., Kan.; (2) Ala., Ark., Fla., Ga., Kan., La., Miss., Neb., N.D., Okla., S.C., S.D.; (3) Col., Mont. (E), N.M., Tex., Wyo.; (4) Ariz., Cal., Idaho, Mont. (W), Nev., Ore., Utah, Wash.

Tricresyl phosphate,[6] CP, cns., works..lb. .43½- .54½
dms., c.l., dlvd.....lb. .37½- —
l.c.l., dlvd.....lb. .40½- —
tech., cns., works.....lb. .28½- .45½
dms., c.l., dlvd.....lb. .25 - .31
l.c.l., dlvd.....lb. .25½- .31½
tanks, dlvd.....lb. .24 - .30
Triethanolamine,[6] dms., c.l., works..lb. .19 - —
l.c.l., works.....lb. .20 - —
tanks, works.....lb. .18 - —
Triethyl phosphate, cns.....lb. .46 - —
Triethylamine, dms., works....lb. 1.16 - —
Triethyleneglycol[6] dms.....lb. .26 - —
Trimethylamine, dms., c.l., dlvd. lb. .85 - —
l.c.l., dlvd.....lb. .90 - —
Triphenyl phosphate,[3] bbls....lb. .31 - .32
Tripoli, air-floated, bgs., c.l., works..ton.21.50 - —
double grd., bgs., c.l., works. ton.17.50 - —
once-grd., bgs., c.l., works..ton.16.00 - —
Trisodium phosphate (see Soda phosphate, tribasic).
Tuba root,[2,3] (see Derris root).
Tungsten metal, powd.,[2] 99-99.7%, dms., works..lb. 2.60 - 5.40
Oxide, kgs.....lb. No prices
Turmeric root, Aleppey, bgs..lb. .12 Nom.
Madras, bgs.....lb. .12 Nom.
Turpentine, gum, dms.....gal. .83½- .86½
wood, d.d., dms., East.....gal. .60 - .63
tanks .....gal. .55 - —
steam-dist., dms.....gal. .77 - .80
tanks .....gal. .72 - —

U

Unicorn root, false (see Helonias root).
True (see Aletris root).
Uranium oxide, black, bgs....lb. 2.55 - —
yellow, kgs.....lb. 1.65 - —
Urea, dom., 46% N., bgs., c.l., works or ship. pts..ton.75.00 - —
l.c.l., ship. pts.....ton.77.50 -85.00
import, pure, cs.....lb. .12 - —
Fertilizer comp., basis 42% N., bulk, c.l., works or A. or G. ports..ton.57.40 - —
Urea-ammonia liquor, 42% N., bulk, c.l., works or A. or G. ports..ton.121.58 - —
37% N. (insoluble), same basis. ton.127.00 - —
Uva ursi leaves, bls.....lb. .22 - .23

V

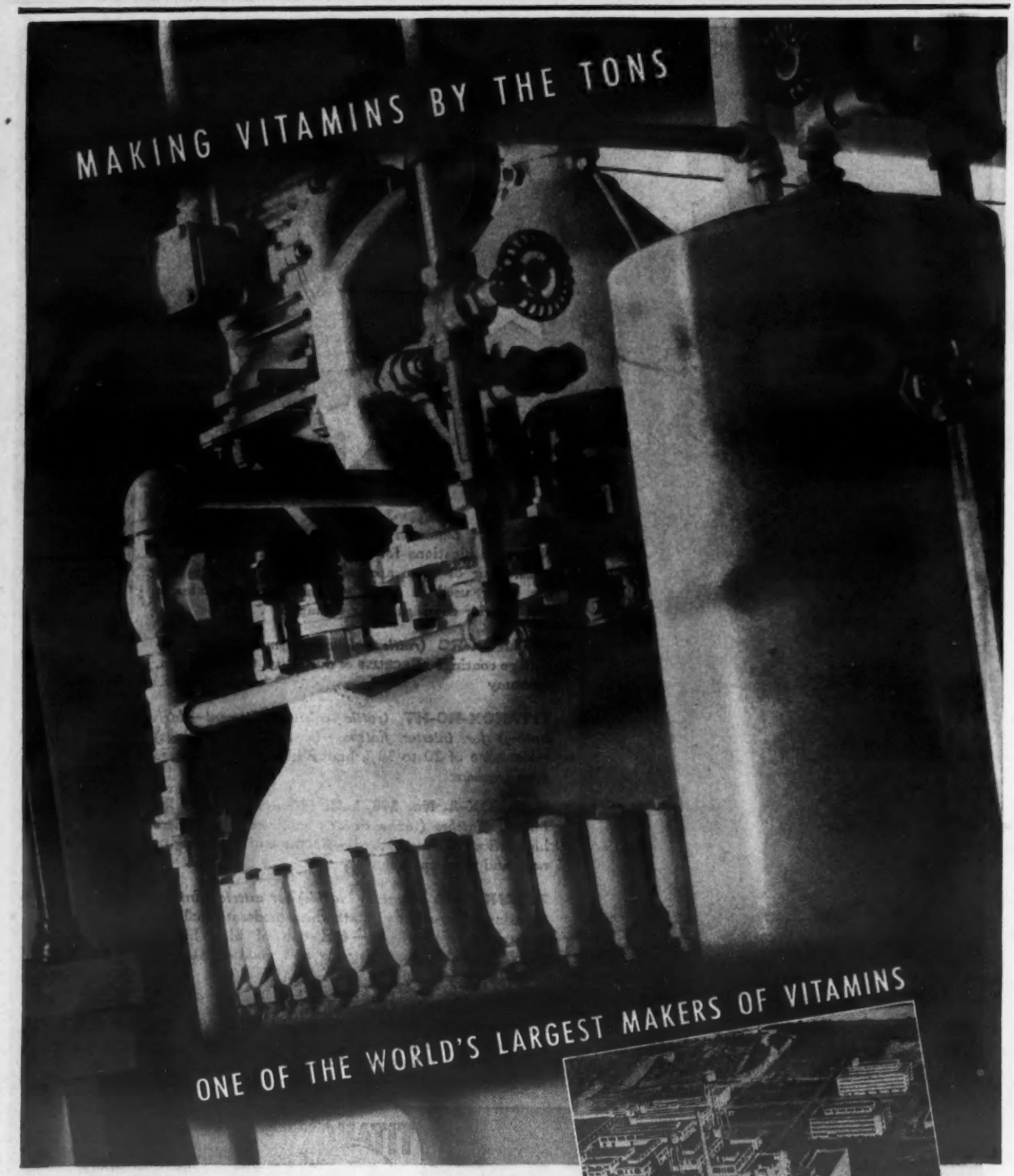
Valerian root, Belgian, bls....lb. 1.20 - 1.25
Eastern, bls.....lb. .92 - .98
Valonia, beards, bgs., f.a.s..ton. No prices
Cups, bgs., f.a.s.....ton. No prices
Vanadium pentoxide, CP, bgs., cns., works..lb. 7.00 - —
tech., dms., works.....lb. 1.10 - —
Vanilla beans,[1] Bourbon, tins..lb. 8.00 - 8.50
Java, tins.....lb. No stocks
Mexican, cuts, tins.....lb. 8.25 - 8.75
whole, tins.....lb. 8.00 - 8.50
Tahiti, white label, tins...lb. 3.75 - 4.00
yellow label, tins.....lb. 3.50 - 3.75
West Indian, tins.....lb. 8.00 - 8.50
Vanillin,[1] makers, primary distrib., tins, ex eugenol, 25 lbs. or more..lb. 2.60 - —
smaller lots.....lb. 2.65 - 2.75
ex guaiacol or lignin, tins, 25 lbs. or more..lb. 2.35 - —
smaller lots.....lb. 2.40 - 2.50
Venice turpentine, artif., cns..lb. .24 - .25
Verdigris, bbls., bgs.....lb. .22 - .23
Vinyl acetate,[6] cbys., wks....lb. .25 - —
dms., c.l., works.....lb. .15 - —
l.c.l., works.....lb. .16 - —
smaller pkgs., works.....lb. .25 - —
Ether, 75 c.c.....bot. 1.30 - —
50 c.c.....bot. .73½- —
25 c.c.....bot. .45½- —
Vinylpyridin, ret. dms., works.lb. 1.50 - —
Viosterol (irradiated ergosterol). mil units. .16 - .20
Vitamin A (see Oils, codliver, halibut-liver).
B_1 (see Thiamine hydrochloride).
B_2 (see Riboflavin).
B complex, natural (see Rice bran and Yeast).
C (see Acid, ascorbic).
D (see Oils, codliver, halibut-liver, viosterol).
E (see Alpha Tocopherol).
G (see Riboflavin).
P-P (see Acid, nicotinic, and Nicotinamide).
Violet, methyl, toner (see M).
V.M.P. naphtha (see Petroleum, naphtha, v.m.p.).

W

Wahoo, root bark, bls.....lb. .45 - .46
Tree bark, bls.....lb. .28 - .30
Wattlebark, E. Afr., bgs., f.a.s., based on freight $11; insurance $1 per ton. Difference for buyers account. Current freight $11.70; WSA insurance $2.75 per ton..ton.46.00 - —
So. Afr., bgs., f.a.s., based on freight $11; insurance $1 per ton. Difference for buyers account. Current freight $11.05; WSA insurance $3 per ton..ton.46.00 -48.50
Extract, liquid, bbls.....lb. .05¾- —
tanks .....lb. .05¼- —
solid, bgs., based on freight $20; insurance $2.50 per ton. Difference for buyers account. Current freight $16.90; WSA insurance $8.75 per ton..lb. .04475- .0469
Wax, amorphous, 160°-165°, m.p., amber, ctns., 30 tons, yr. cont., group 3, wcaks..lb. .14¼- —
smaller lots.....lb. .14½- .15¼
black, ctns., 30 tons, same basis..lb. .12¾- —
smaller lots.....lb. .13 - .13¾
white, ctns., 30 tons, same basis..lb. .24¾- —
smaller lots.....lb. .25 - .25¾
180°-185° m.p., amber, ctns., 30 tons, same basis..lb. .16¼- —
smaller lots.....lb. .16½- .17¼
black, ctns., 30 tons, same basis..lb. .14¾- —
smaller lots.....lb. .15 - .15¾
white, ctns., 30 tons, same basis..lb. .28¾- —
Bayberry, bgs.....lb. .25 - .26
Bees,[1] bleached, USP, white, bricks, bgs., ton..lb. .58 - —
discs or cakes, bgs., ton..lb. .60 - —
ctns., ton.....lb. .61 - .65
slabs, bgs., ton.....lb. .57 - —
yellow, crude, Afr., bgs., ton. lb. .37½- —
Cent. or So. Amer., sun-bleachable, bgs., ton..lb. .44¾- —
unbleachable, bgs., ton..lb. .41½- —
ref'd, USP, bricks, bgs., ton. lb. .58½- —
discs, bgs., ton.....lb. .56½- —
ctns., ton.....lb. .56½- .58½
rounds or squares, bgs., ton..lb. .57½- —
ctns., ton.....lb. .58½- .60½
slabs, bgs., ton.....lb. .52½- —
Candelilla,[1] crude, bgs., ton..lb. .38 - —
smaller lots.....lb. .39 - .48
Candelilla, powdered, 20 mesh, 5c. per lb. extra; 80 mesh, 5½c.; 100-200 mesh, 6c.
refined, bgs., ton.....lb. .44 - —
smaller lots.....lb. .45 - .54
Carnauba,[1] chalky No. 3, bgs., ton..lb. .71¼- —
smaller lots.....lb. .72¼- .81¼
North Country No. 2, bgs., ton..lb. .75¾- —
smaller lots.....lb. .76¾- .85¾
No. 3, bgs., ton.....lb. .73½- —
smaller lots.....lb. .74½- .83½
refined, bgs., ton.....lb. .76¾- .80
smaller lots.....lb. .77¾- .90
yellow, No. 1, bgs., ton....lb. .83¼- —
smaller lots.....lb. .84¼- .95¼
No. 2, bgs., tons.....lb. .81¼- —
smaller lots.....lb. .82¼- .91¼
No. 3, bgs., ton.....lb. .79 - —
smaller lots.....lb. .80 - .89
powdered (same differentials as candelilla).
Ceresin, dom., 138-140 m.p., bgs., ton..lb. .13½- .14
jobbing lots.....lb. .14½- .16
150°-160° m.p., bgs., 1 ton, lb. .15½- .16
jobbing lots.....lb. .16½- .17
160°-170° m.p., bgs., 1 ton, lb. .16¼- .17
jobbing lots.....lb. .17½- .18
Japan, cs.....lb. No stocks
Montan, bgs.....lb. No stocks
Ouricury,[1] bgs., ton.....lb. .49¼- .51¾
smaller lots.....lb. .50¼- .61¾
powdered (same differentials as candelilla)
refined, bgs., ton.....lb. .62 - —
smaller lots.....lb. .63 - .72
Paraffin (see under P).
Spermaceti, blocks, cs.....lb. .26 - .27
cakes, cs.....lb. .27 - .28
White lead (see Lead, white).
White pine bark, natural, bls., lb. .04 - .07½
rossed, bls.....lb. .07 - .10
White precipitate,[3] powd., dms., 50 lbs. or more..lb. 2.84 - —
Whiting, chalk, dry-grd., bgs., c.l..ton.18.00 -22.00
l.c.l. .....ton.20.00 -24.00
wet-ground, bgs., c.l...ton.21.00 -25.00
l.c.l. .....ton.25.00 -29.00
gilders, bolted, bgs., c.l..ton.20.00 -24.00
l.c.l. .....ton.21.00 -25.00
extra-bolted, bgs., c.l..ton.22.00 -26.00
l.c.l. .....ton.23.00 -27.00
Paris white, bgs., c.l..ton.24.00 -28.00
l.c.l. .....ton.25.00 -29.00
limestone, dry-grd., 325 mesh, bgs., 40 tons, N. E. works, ton. 6.00 - —
smaller lots, N.E. wks. ton. 7.00 - 9.00
wet-grd., air-floated, 300 mesh, 99¾%, bgs., c.l..ton. 9.35 -10.10
200 mesh, bgs., c.l....ton. 8.00 - 9.50
90%, bgs., c.l.....ton. 6.25 - 7.00
water-floated, extra gilders, bgs., c.l..ton.13.00 - —
gilders, bgs., c.l.....ton.12.45 - —
putty grade, bgs., c.l..ton.12.00 - —
Precipitated, bgs., c.l.....ton.14.00 -15.00
l.c.l. .....ton.18.00 -20.00
Wild cherry bark, thick, bls..lb. .05½- .06
rossed, bls.....lb. .15 - .18
thin, bls.....lb. .09½- .10
rossed, green, bls.....lb. .12 - .15
Wild indigo root, bls.....lb. .18 - .19
Witch-hazel extract, dist., NF, bbls..gal. .72 - .75
Leaves, bls.....lb. .07 - .09
Witherite (see Barium carbonate, natural).
Woodflour, 40 mesh, bulk, c.l., N. Tonawanda, N.Y..ton.20.00 - —
60 mesh, same basis.....ton.24.00 - —
80 mesh, same basis.....ton.27.00 - —
100 mesh, same basis.....ton.30.00 -32.00
Woodflour in bags, 25c. each extra, returnable.
Wormseed, American, bgs.....lb. .11 - .12
Levant .....lb. 6.50 - —
Wormwood, bls.....lb. .50 - .75

X

Xylene (see Xylol).
Xylol[6] (xylene), indus. dms., return, works..gal. .32 - —
tanks, E. of Omaha, frt. alld. to 2c. per gal..gal. .27 - —
West, Minnequa, Col....gal. .27 - —
10°, dms., return, works....gal. .35 - —
tanks, E. of Omaha, frt. alld. to 2c. per gal..gal. .30 - —
5°, dms., return, works....gal. .42 - —
tanks, E. of Omaha, frt. alld. to 2c. per gal..gal. .37 - —
3°, dms., return, works....gal. .47 - —
tanks, E. of Omaha, frt. alld. to 2c. per gal..gal. .42 - —
Xylidin, mixed, dms.....lb. .35 - .36



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World Famous for Fine Pharmaceutical Chemicals.

Y

Yara yara, cryst., bots., cns.	lb.	1.75	- 2.20
Yeast, brewer's, dry, 50 B units, dms.	lb.	.35	- —
90 B units, dms.	lb.	.40	- —
120 B units, dms.	lb.	.45	- —
200 B units, dms.	lb.	.58	- —
300 B units, dms.	lb.	.72	- —
Yellow, benzidin, bbls., dlvd.	lb.	1.35	- 2.25
Cadmium, CP, import, bxs.	lb.	1.35	- 1.40
Lithopone, bbls., ton, E. of Rockies	lb.	.55	- —
smaller lots, same basis	lb.	.60	- —
packages, same basis	lb.	.65	- —
Sulphide, orange, kegs, cases, works	lb.	1.10	Nom.
Chrome, CP, bbls., dlvd. N. of Tenn. and N. C., E. of Miss. R., including Davenport, Minneapolis, Rock Island, St. Louis, St. Paul, contracts	lb.	.16	- —

Chrome yellow prices are ¼c. higher, dlvd. Ala., Fla., Ga., La. (Shreveport, 1¼c.), Miss., N. C., S. C., Tenn., Tex. (Dallas, 1¼c.; Ft. Worth, 1½c.; El Paso, 2c.), Cedar Rapids, Des Moines, Kansas City, Lincoln, Omaha, St. Joseph; 1.6c. higher dlvd. Pac. Coast; for Denver, Pueblo, Salt Lake City, Wichita, prices are equalized with Chicago.

Dutch, pink, bbls.	lb.	.09	- .11
Hansa, bbls., same basis as chrome.	lb.	1.37	- —
primrose, bbls., same basis.	lb.	1.75	- —
Mercury oxide, bbls., 1,000 lbs.	lb.	2.87	- —
smaller lots	lb.	2.89	- —
Yellow, ocher, American, golden, bbls., works.	lb.	.04½-	.06¼
yellow, bbls., works	lb.	.02	- .02¾
French type, bbls., c.l.	lb.	.0345-	—
l.c.l.	lb.	.0365-	—
Oxide, nat., bbls., c.l., f.o.b. Bethlehem, Easton, Pa.	lb.	.04½-	—
l.c.l., same basis	lb.	.05	- —
synth., bbls., c.l., works	lb.	.07	- —
l.c.l., works	lb.	.071	- —
Persian orange (see O).			
Zinc, bbls., same basis as chrome.	lb.	.15	- —
Navy spec. type, bbls., contracts.	lb.	.15	- —
Yellow dock root, dom., bls.	lb.	.16	- .23
Yellow root (xanthoriza), bls.	lb.	.11	- .13
Yerba santa leaves, bls.	lb.	.14	- .16
Yohimbine hydrochloride, vls.	oz.	3.00	- 5.75

Z

Zein,[6] bgs., 1,000 lbs., works.	lb.	.25	- —
smaller lots, works	lb.	.30	- —
Zinc acetate, tech., bbls., dlvd.	lb.	.16	- .17
USP, bbls., 250 lbs.	lb.	.26	- .27
kgs., 100 lbs.	lb.	.29	- —
Arsenite,[1] bgs., c.l., frt. alld. E. of Rockies.	lb.	.11¾-	.13¼
l.c.l., same basis	lb.	.12¼-	.13¾
Carbonate, tech., bbls.	lb.	.14	- .20
USP, precip., powd., bbls.	lb.	.33	- —
dms	lb.	.40	- —
kgs.	lb.	.37	- —
Chloride, tech., fused, c.l., works.	100 lbs.	5.00	- —
l.c.l., works.	100 lbs.	5.35	- —
gran., dms., c.l., works	100 lbs.	5.75	- —
l.c.l., works	100 lbs.	6.50	- —
USP, dms.	lb.	.30	- .31
jars	lb.	.36	
Zinc acetate, solution, 50%, dms., c.l., works.	lb.	.0315-	—
l.c.l., works	lb.	.04½-	.04½
tanks, works	lb.	.0250-	—
Chromate (see Yellow, Zinc).			
Cyanide, kgs., works	lb.	.33	- .37
Dust,[6] bbls., c.l., dlvd.	lb.	.1035-	—
l.c.l., works	lb.	.1135-	—
Fluoride, bbls.	lb.	.25	- .30
Iodide, NF, bots.	lb.	4.54	- —
jars	lb.	4.40	- —
Metal,[1,3,5] (quotations in Paint Market report).			
Oxide,[6] pigment, dom., acicular, bgs., c.l., dlvd.	lb.	.07¼-	—
l.c.l., dlvd.	lb.	.07½-	—
lead free, bgs., c.l., dlvd.,	lb.	.07¼-	—
l.c.l., dlvd.	lb.	.07½-	—
5%, bgs., c.l., dlvd.	lb.	.07⅛-	—
l.c.l., dlvd.	lb.	.07⅜-	—
35% or more, bgs., c.l., dlvd.	lb.	.07	- —
l.c.l., dlvd.	lb.	.07¼-	—
French process, com'l, lead free, bgs., c.l., dlvd.	lb.	.07¼-	—
l.c.l., dlvd.	lb.	.07½-	—
French process, green seal, bgs., c.l., dlvd.	lb.	.09	- —
l.c.l., dlvd.	lb.	.09¼-	—
red seal, bgs., c.l., dlvd.	lb.	.08½-	—
l.c.l., dlvd.	lb.	.08⅝-	—
white seal, bgs., c.l., dlvd.	lb.	.09½-	—
l.c.l., dlvd.	lb.	.09¾-	—
USP, 50-lb. ctns., c.l.	lb.	.10½-	—
l.c.l.	lb.	.10⅝-	—
Zinc oxide in bbls. ¼c. higher; Pac. cst. ½c. higher, c.l., dlvd., l.c.l. ex whse.			
Palmitate, bbls.	lb.	.32	- .38
Resinate, fused, pale, bbls.	lb.	.11	- .12
precipitated, dms., dlvd.	lb.	.15	- —
Silicofluoride, bbls.	lb.	.15	- .18
Stearate, tech., ctns., c.l., frt. equald.	lb.	.29	- —
ton lots, frt. equald.	lb.	.30	- —
smaller lots, frt. equald.	lb.	.31	- —
USP (same prices as tech.).			
Sulphate, cryst., bgs., c.l.	100 lbs.	3.90	- —
l.c.l.	100 lbs.	4.35	- —
flake, bgs., c.l.	100 lbs.	4.10	- —
l.c.l.	100 lbs.	4.85	- —
powd., bgs., c.l.	100 lbs.	5.80	- —
l.c.l.	100 lbs.	6.55	- —
Zinc sulphate in bbls. 25c. higher.			
Sulphide,[1,6] pure, bgs., c.l., dlvd.	lb.	.08¼-	—
l.c.l., dlvd.	lb.	.08½-	—
bbls., c.l., dlvd.	lb.	.08½-	—
l.c.l., dlvd.	lb.	.08¾-	—
barium pigment, bgs., c.l., dlvd.	lb.	.0560-	—
l.c.l., dlvd.	lb.	.0585-	—
calcium pigment, bgs., c.l., dlvd.	lb.	.0560-	—
l.c.l., dlvd.	lb.	.0585-	—
fluorescent, pigment, works, frt. alld.	lb.	.90	- 1.00
magnesium pigment, bgs., c.l., dlvd.	lb.	.05¾-	—
l.c.l., dlvd.	lb.	.06	- —
Zinc sulphide on Pac. cst. ¼c. higher for pure, ½c. for others.			
Sulphocarbolate, NF, bbls., dms.	lb.	.26	- .31
Yellow (see Yellow, zinc).			
Zinc-ammonia chloride, dms., c.l., works.	100 lbs.	5.65	- —
l.c.l., works.	100 lbs.	6.70	- —
Zinc-and-cadmium sulphide, fluorescent, works, frt. alld.	lb.	2.00	- 2.35
Zinc-iron oxide pigment, bgs., c.l., dlvd.	lb.	.09	- —
l.c.l., dlvd. E. of Rockies,	lb.	.06¼-	—
dlvd., Pac. cst.	lb.	.06½-	—
ex whse., Pac. cst.	lb.	.07	- —
Zirconium hydride, cns., works,	lb.	7.00	- 8.00
Nitrate, kgs., works.	lb.	3.00	- 4.00
Oxide, crude, 70-75%, grd., bbls., works.	ton	75.00	-100.00
white, 99%, grd., kgs., works.	lb.	1.80	- 2.00

Devoe & Raynolds Names Lyons to Laboratory Post

Devoe & Raynolds Company, paint manufacturer, this city, has appointed Henry N. Lyons to the newly-created position of administrative manager of laboratories. From 1922 to 1943, Mr. Lyons was associated with the Cities Service Company in various capacities. He was chemical director of Cities Service Refining Corporation, vice-president and director of several of the company's subsidiaries and a member of the manufacturing committee for petroleum subsidiaries. Prior to 1922 he was connected with the Pittsburgh Plate Glass Company and Hercules Powder Company.

PERFORMANCE RECORD
ANOTHER ZIRCON REFRACTORY APPLICATION MAKES GOOD
A Zircon lining has successfully withstood temperatures, chemical reaction and mechanical abrasion for 14 months in this Ceramic Materials sintering furnace.
The lining is in perfect condition and should continue to withstand these conditions for many more months.
An experienced staff of field engineers, located in centralized parts of the country, is available to you for consultation on your Refractory problems.
TITANIUM
ALLOY MANUFACTURING COMPANY
See Booth 408
19th Exposition of Chemical Industries
New York City, Dec. 6-11, 1943.
GENERAL OFFICES AND WORKS: NIAGARA FALLS, N. Y., U. S. A.
EXECUTIVE OFFICES: 111 BROADWAY, NEW YORK CITY
Representatives for the Pacific Coast States . . . . . L. H. BUTCHER COMPANY, Los Angeles, San Francisco, Portland, Seattle
Representatives for Canada . . . . . PRESCOTT & COMPANY, 774 St. Paul St. West, Montreal, Canada
Representatives for Europe . . . . UNION OXIDE & CHEMICAL CO., Ltd., Plantation House, Fenchurch St., London, E. C., Eng.

Synthetic Resins and other Branded Paint Materials (Manufacturers' List Prices)

A

Abalyn (methyl abietate), c.l., returnable black iron dms., f.o.b. cars, destination, zone 1.	lb.	.0723-	—
l.c.l., lots of 10 dms., same basis.	lb.	.0947-	—
single dms., same basis.	lb.	.0947-	—
smaller lots, same basis.	lb.	.1447-	—
Aroclors, distilled, dms., c.l., works.	lb.	.18	- —
ton lots, works.	lb.	.18½-	—
single dms., works.	lb.	.19	- —
undistilled, dms., c.l., works.	lb.	.15½-	—
ton lots, works.	lb.	.16	- —
single dms., works.	lb.	.16½-	—

B

Bakelite, 100% paraphenyl phenol resin, pale, non-heat hardening, BR-254, non-ret. bbls., 30,000 lbs., works.	lb.	.33	- —
15,000 lbs., works.	lb.	.33½-	—
5,000 lbs., works.	lb.	.34	- —
100% phenolic resins, paraphenyl phenol type, BR-17,000, non-ret. bbls., 30,000 lbs., works.	lb.	.32½-	—
15,000 lbs., works.	lb.	.33	- —
5,000 lbs., works.	lb.	.33½-	—
pale, non-heat hardening, BR-9432, non-ret. bbls., 30,000 lbs., works.	lb.	.31	- —
15,000 lbs., works.	lb.	.31½-	—
5,000 lbs., works.	lb.	.32	- —
BR-4036, non-ret. bbls., 30,000 lbs., works.	lb.	.37	- —
15,000 lbs., works.	lb.	.37½-	—
5,000 lbs., works.	lb.	.38	- —
dark, non-heat hardening, BR-1329, non-ret. bbls., 30,000 lbs., works.	lb.	.29	- —
15,000 lbs., works.	lb.	.29½-	—
5,000 lbs., works.	lb.	.30	- —
BR-9434, non-ret. bbls., 30,000 lbs., works.	lb.	.25½-	—
15,000 lbs., works.	lb.	.26	- —
5,000 lbs., works.	lb.	.26½-	—
pale, heat-hardening, BR-3560, non-ret. bbls., 30,000 lbs., works.	lb.	.36	- —
15,000 lbs., works.	lb.	.36½-	—
5,000 lbs., works.	lb.	.37	- —
BR-14634, non-ret. bbls., 30,000 lbs., works.	lb.	.30	- —
15,000 lbs., works.	lb.	.30½-	—
5,000 lbs., works.	lb.	.31	- —
BR-10282, non-ret. bbls., 30,000 lbs., works.	lb.	.32	- —
15,000 lbs., works.	lb.	.32½-	—
5,000 lbs., works.	lb.	.33	- —
Phenolic dispersion resins, BK-3607X, oil content 25%, non-ret. bbls., 30,000 lbs., works.	lb.	.277	- —
15,000 lbs., works.	lb.	.282	- —
5,000 lbs., works.	lb.	.287	- —
XK-14504, oil content 54%, ret. dms. (dm. charges not included), 30,000 lbs., works.	lb.	.51	- —
15,000 lbs., works.	lb.	.53½-	—
5,000 lbs., works.	lb.	.54	- —
XK-16624, oil content 40%, non-ret. bbls., 30,000 lbs., works.	lb.	.22½-	—
15,000 lbs., works.	lb.	.23	- —
5,000 lbs., works.	lb.	.23½-	—

Bakelite, oil modified, BR-302, oil content 49%, non-ret. bbls., 30,000 lbs., works..lb. .346 - —
15,000 lbs., works...lb. .351 - —
5,000 lbs., works...lb. .356 - —

BR-2175, oil content 47%, non-ret. kgs., 30,000 lbs., works..lb. .38 - —
15,000 lbs., works...lb. .38½- —
5,000 lbs., works...lb. .39 - —

resin baking types, BV-1600, ret. dms., dm. charges not included, 30,000 lbs., works..lb. .30 - —
15,000 lbs., works...lb. .30½- —
5,000 lbs., works...lb. .31 - —

BV-8966, ret. dms., dm. charges included, 30,000 lbs., works..lb. .20 - —
15,000 lbs., works...lb. .20½- —
5,000 lbs., works...lb. .21 - —

XV-16607, ret. dms., dm. charges included, 30,000 lbs., works..lb. .22 - —
15,000 lbs., works...lb. .22½- —
5,000 lbs., works...lb. .23 - —

XV-15376, ret. dms., dm. charges not included, 30,000 lbs., works..lb. .23½- —
15,000 lbs., works...lb. .24 - —
5,000 lbs., works...lb. .24½- —

XV-1803, oil content 21%, ret. dms., dm. charges not included, 30,000 lbs., works..lb. .318 - —
15,000 lbs., works...lb. .328 - —
5,000 lbs., works...lb. .338 - —

phenolic lacquer resins and solutions, XR-3180, non-ret. dms., 30,000 lbs., works..lb. .45 - —
15,000 lbs., works...lb. .45½- —
5,000 lbs., works...lb. .46 - —

XR-4357, non-ret. dms., 30,000 lbs., works...lb. .45 - —
15,000 lbs., works...lb. .45½- —
5,000 lbs., works...lb. .46 - —

XJ-10433, ret. dms., dm. charges not included, 30,000 lbs., works..lb. .37 - —
15,000 lbs., works...lb. .37½- —
5,000 lbs., works...lb. .38 - —

BJ-15408, oil content 40%, non-ret. bbls., 30,000 lbs., works..lb. .24 - —
15,000 lbs., works...lb. .24½- —
5,000 lbs., works...lb. .25 - —

BR-9866, non-ret. bbls., 30,000 lbs., works..lb. .18½- —
15,000 lbs., works...lb. .19 - —
5,000 lbs., works...lb. .19½- —

XJ-9668, oil content 25%, ret. dms., dm. charges included, 30,000 lbs., works..lb. .286 - —
15,000 lbs., works...lb. .291 - —
5,000 lbs., works...lb. .296 - —

phenolic resin solution, oil modified XJ-180, oil content 17%, ret. dms., dm. charges not included, 30,000 lbs., works..lb. .217 - —
15,000 lbs., works...lb. .222 - —
5,000 lbs., works...lb. .227 - —

glycerine reactive, BR-10025, non-ret. bbls., 30,000 lbs., works..lb. .23 - —
15,000 lbs., works...lb. .23½- —
5,000 lbs., works...lb. .20 - —

resin modified, BR-2963, non-ret. bbls., 30,000 lbs., works..lb. .22 - —
15,000 lbs., works...lb. .22½- —
5,000 lbs., works...lb. .23 - —

BR-11504, non-ret. bbls., 30,000 lbs., works..lb. .18 - —
15,000 lbs., works...lb. .18½- —
5,000 lbs., works...lb. .19 - —

BR-11544, non-ret. bbls., 30,000 lbs., works.lb. .18 - —
15,000 lbs., works...lb. .18½- —
5,000 lbs., works...lb. .19 - —

C-9 resins, solid types, BR-13202, non-ret. bbls., 30,000 lbs., works.lb. .15 - —
15,000 lbs., works...lb. .15½- —
5,000 lbs., works...lb. .16 - —

XR-13280, non-ret. bbls., 30,000 lbs., works.lb. .37 - —
15,000 lbs., works...lb. .37½- —
5,000 lbs., works...lb. .38 - —

liquid types, oil modified, BR-14890, oil content 50%, non-ret. bbls., 30,000 lbs., works.lb. .26 - —
15,000 lbs., works.lb. .26½- —
5,000 lbs., works.lb. .27 - —

XR-15750, oil content 49%, non-ret. bbls., 30,000 lbs., works..lb. .34 - —
15,000 lbs., works...lb. .34½- —
5,000 lbs., works...lb. .35 - —

XR-16640, oil content 48%, non-ret. bbls., 30,000 lbs., works..lb. .34 - —
15,000 lbs., works...lb. .34½- —
5,000 lbs., works...lb. .35 - —

lacquer types, XJ-16580, oil content 50%, ret. dms., dm. charges included, 30,000 lbs., works.lb. .26 - —
15,000 lbs., works.lb. .26½- —
5,000 lbs., works.lb. .27 - —

XR-15840, oil content 50%, non-ret. bbls., 30,000 lbs., works..lb. .34 - —
15,000 lbs., works...lb. .34½- —
5,000 lbs., works...lb. .35 - —

C

"Cumar" resin, AX, non-ret. drums..lb. .06¼- —
BX .....lb. .06¼- —
CX, net weight.....lb. .061 - —
DX, gross weight.....lb. .05¼- —
EX, gross weight.....lb. .05¼- —
FX, gross weight.....lb. .05⅝- —
MH, col. 1.....lb. .11⅛- —
1½-2 .....lb. .10⅝- —
2½-3½ .....lb. .09⅝- —
9 .....lb. .06½- —
M8 .....lb. .10⅝- —
P 10°-30° C., col. 2½ and darker, lb. .10⅝- —
RH .....lb. .10⅝- —
R8 .....lb. .10⅝- —
V col. ½.....lb. .12⅝- —
1 .....lb. .11⅛- —
1½-2 .....lb. .10⅝- —
2½ and darker.....lb. .09⅝- —
W col. ½.....lb. .13½- —
1 .....lb. .12½- —
1½-2 .....lb. .11½- —
2½ and darker.....lb. .10½- —

All "P" grades with melting point below 50 degrees centigrade, and grades AX, BX and CX are shipped in steel drums, with the three last-mentioned grades reckoned on a net weight basis. All other grades are shipped in destructible fiber and metal drums, but their packaging is subject to change without notice. Prices are based on f.o.b. plant at Frankford, Pa., freight equalized with Pittsburgh, with no revisions for shipments made in fiber containers.

D

Durite, 1301, pale, one drum and over..lb. .29 - —
smaller lots.....lb. .30 - —

Durite prices are f.o.b. Phila., Pa., with freight allowed east of Rocky Mts.

E

Esterol, alkyd solution, A, dms., c.l., dlvd..lb. .15½- —
l.c.l. .....lb. .16 - .16½
B, c.l., dlvd.....lb. .15 - —
l.c.l. .....lb. .15½- .16
E, c.l., dlvd.....lb. .16 - —
l.c.l. .....lb. .16½- .17
H-1, c.l., dlvd.....lb. .19 - —
l.c.l. .....lb. .19½- —
PV, c.l., dlvd.....lb. .16¾- —
l.c.l. .....lb. .17¼- —
11, c.l., dlvd.....lb. .16 - —
l.c.l. .....lb. .16½- —
22, c.l., dlvd.....lb. .13 - —
l.c.l. .....lb. .13½- —
22-B, c.l., dlvd.....lb. .10½- —
l.c.l. .....lb. .11 - —
33, c.l., dlvd.....lb. .15½- —
l.c.l. .....lb. .16 - —
44, c.l., dlvd.....lb. .15 - —
l.c.l. .....lb. .15½- .16
44B, c.l., dlvd.....lb. .16 - —
l.c.l. .....lb. .15½- .16
55, c.l., dlvd.....lb. .15½- —
l.c.l. .....lb. .16 - .16½
562, c.l., dlvd.....lb. .16½- —
l.c.l. .....lb. .17 - —
640-N, c.l., dlvd.....lb. .15½- —
l.c.l. .....lb. .16 - —
660-N, c.l., dlvd.....lb. .15 - —
l.c.l. .....lb. .15½- —
750, any quantity, dlvd...lb. .13 - —
830, c.l., dlvd.....lb. .17 - —
l.c.l. .....lb. .17½- .18
1800, c.l., dlvd.....lb. .15 - —
l.c.l. .....lb. .15½- .16
1835, c.l., dlvd.....lb. .17⅛- —
l.c.l. .....lb. .18 - .18½
2185, c.l., dlvd.....lb. .15 - —
l.c.l. .....lb. .15½- .16
2196, c.l., dlvd.....lb. .16 - —
l.c.l. .....lb. .16½- .17

Esterol, alkyd solut., 2600, c.l., dlvd..lb. .18 - —
l.c.l. .....lb. .18½- —
2633, c.l., dlvd.....lb. .14½- —
l.c.l. .....lb. .15 - —
2728, c.l., dlvd.....lb. .16 - —
l.c.l. .....lb. .16 - .17
2775-BS, c.l., dlvd.....lb. .15 - —
l.c.l. .....lb. .15½- .16
4040, c.l., dlvd.....lb. .15 - —
l.c.l. .....lb. .15½- .16

F

Flexalyn solution, returnable black iron dms., c.l., f.o.b. cars, destination, zone 1.....lb. .1222- —
l.c.l., 10 dms., same basis..lb. .1297- —
single dms., same basis..lb. .1447- —
smaller lots, same basis..lb. .1947- —

C solution, returnable black iron dms., c.l., f.o.b. cars, destination, zone 1..lb. .1147- —
10 dms., same basis...lb. .1222- —
single dms., same basis...lb. .1372- —
smaller lots, same basis...lb. .1872- —

G

G, resin, dms., gross weight, works..lb. .08 - —

Guai-a-phene, dms. (dm. deposit $6.00), works..gal. 2.47 - —
4 gals. or multiples, glass jars, 4 jars in each paper carton, works..gal. 2.62 - —
1-3 gals., cns., works....gal. 2.82 - —

H

Hercolyn (hydrogenated methyl abietate), returnable black iron dms., c.l., f.o.b. cars, destination, zone 1..lb. .1122- —
l.c.l., lots of 10, same basis..lb. .1247- —
single dms., same basis...lb. .1347- —
less lots, same basis....lb. .1847- —

K

Kadox (zinc oxide), East of Pacific Coast:—
Nos. 15, 17 and 72, bgs., c.l., dlvd. .....lb. .07¼- —
Nos. 15, 17 and 72, bbls., c.l., dlvd. .....lb. .07½- —
l.c.l., dlvd., bgs.....lb. .07½- —
l.c.l., dlvd., bbls.....lb. .07⅝- —
No. 25, bgs., c.l., dlvd....lb. .08½- —
bbls., c.l., dlvd.....lb. .08⅝- —
l.c.l., bgs., dlvd.....lb. .08⅝- —
l.c.l., bbls., dlvd.....lb. .09 - —

Pacific Coast prices ½c. per lb. higher; l.c.l. prices ex warehouse.

L

Lewisol resin, 2 L, non-returnable fiber dms., c.l., f.o.b. cars, destination, zone 1..lb. .16½- —
l.c.l., 10 dms., same basis..lb. .17 - —
1 dm., same basis.....lb. .17½- —
smaller lots, same basis....lb. .22½- —
28, non-returnable fiber dms., c.l., f.o.b. cars, destination, zone 1..lb. .16½- —
10 dms., same basis.....lb. .17 - —
1 dm., same basis.....lb. .17½- —
smaller lots, same basis....lb. .22½- —
33, non-returnable fiber dms., c.l., f.o.b. cars, destination, zone 1..lb. .16½- —
10 dms., same basis.....lb. .17 - —
1 dm., same basis.....lb. .17½- —
smaller lots, same basis....lb. .22½- —

Lewisol resin prices are f.o.b. cars, New England States, Middle Atlantic States, Va., W.Va., N.C., Ky., Ohio, Mich., Ind., Ill., Wis., St. Paul and Minneapolis, Minn., St. Louis, Mo. Cost of non-returnable dms. is included in the price in each instance.

M

Metronite pigment, 120 mesh, containers extra, c.l., f.o.b. Milwaukee..ton. 9.00 - —
l.c.l., same basis.....ton.11.00 - —
180 mesh, containers extra, c.o., same basis..ton.11.00 - —
l.c.l., same basis.....ton.13.00 - —
250 mesh, containers extra, c.l., same basis..ton.12.00 - —
l.c.l., same basis.....ton.14.00 - —
325 mesh, containers extra, c.l., same basis..ton.15.00 - —
l.c.l., same basis.....ton.17.00 - —
400 mesh, containers extra, c.l., same basis..ton.17.50 - —
l.c.l., same basis.....ton.19.50 - —

N

Neo-fat drying oil, 170, dms., c.l., dlvd..lb. .14¾- —
190, dms., c.l., dlvd.....lb. .18¾- —
290, dms., c.l., dlvd.....lb. .20¾- —
fatty acid, 3R, dms., c.l., dlvd., lb. .14¾- —
17, dms., c.l., dlvd.....lb. .12¾- —
19, dms., c.l., dlvd.....lb. .16¾- —
Neo-fat prices are 1c. per lb. higher in all States west of the Rocky Mountains and ½c. per lb. higher in Texas and Oklahoma. Drums in all instances are returnable.
Nevillac, pale, hard, dms., works, lb. .19 - —
color 1-2, melting point 85-95°C., drums, works..lb. .19 - —
hard, color 2-½-4, melting point 85-95°C., same basis..lb. .17 - —
soft, color, 2-½-4, melting point 65-75°C., same basis.. lb. .17 - —
10 C, color ½-4, same basis..lb. .24 - —
LX-482 same basis.....lb. .23 - —
Neville resin, R-1 nevindene, col. ½, dms., works..lb. .13½- —
R-3, nevindene, col. 1, dms., works..lb. .12½- —
R-5, nevindene, col. 1½-2, dms., works..lb. .11½- —
R-6 nevindene, col. 2½-3½, dms., works..lb. .10½- —
R-7, N.P.S., col. below 3, dms., works..lb. .12¾- —
R.S., N.P.S., col. below 3, dms., works..lb. .13½- —
R-9, hard, col. ½, dms., works..lb. .12¾- —
R-10, hard, col. 1, dms., works..lb. .11¾- —
R-11, hard, col. 1½-2, dms., works..lb. .10¾- —
R-12, hard, col. 2½-3½, dms., works..lb. .09¾- —
R-13, medium, col. ½, dms., works..lb. .12¾- —
R-14, medium, col. 1, dms., works..lb. .11¾- —
R-15, medium, col. 1½-2, dms., works..lb. .10¾- —
R-16, medium, col. 2½-4, dms., works..lb. .09¾- —
R-16A, medium, col. 7-10, dms., works..lb. .08½- —
R-17, medium, soft, col. 3½-8, dms., works..lb. .10¾- —
R-19, medium soft, col. 3½-8, dms., works..lb. .10¾- —
R-21, soft, col. 3½-8, dms., works..lb. .10¾- —
R-22, special, soft, col. 3½-8, dms., works..lb. .10¾- —
Neville resin, R-27, medium soft, col. 1, dms., works..lb. .13¾- —
R-28, medium soft, col. 1½-2, dms., works..lb. .12¾- —
R-29, medium soft, col. 2½-8, dms., works..lb. .10¾- —
465, 110-125° C., dms., gross weight, Pittsburgh..lb. .03½- —
Neville resin prices, except 465 resin, are freight equalized with Phila. Less than full drum shipments are 5c. per pound additional, f.o.b. Neville Island, Pa.
Nevinol, dms., works.....lb. .13 - —
No. 2 oil, heavy, rfd., dms., works..lb. .12 - —
Nevtex, 10, returnable dms., works..lb. .08 - —
90, returnable dms., works.. lb. .20 - —
Nubs, 1, 80-95° C., dms., gross weight, works..lb. .0290- —
2, 100-125° C., dms., gross weight, works..lb. .0290- —
3x, 135-150° C., dms., gross weight, works..lb. .04½- —
Nuodex drier, cobalt, 6%, 400-lb. pkgs, works..lb. .31¼- —
10½%, 100-lb. pkg.....lb. .52 - —
11½%, 100-lb. pkgs.....lb. .57 - —
Iron, 6%, 400-lb. pkg.....lb. .15¼- —
11%, 100-lb. pkgs.....lb. .26 - —
Lead, 24%, 450-lb. pkgz....lb. .14½- .15½
32%, 450-lb. pkgs.....lb. .18¾- —
34%, 100-lb. pkgs.....lb. .19½- —
40%, 100-lb. pkgs.....lb. .23 - —
Lead, 30%, cobalt, 3%, 150-lb. pkgs..lb. .32 - —
Lead, 30%, manganese, 3%, 150-lb. pkgs..lb. .25 - —
Manganese, 6%, 400-lb. pkgs. lb. .16¼- —
10½%, 100-lb. pkgs.....lb. .27¼- —
Zinc, 8%, 400-lb. pkgs.....lb. .16¼- —
10%, 400-lb. pkgs.....lb. .19¾- —
12%, 100-lb. pkgs.....lb. .23 - —
All prices are dlvd., east of Denver.

P

Paradene, No. 1, 75-99° C., dms., gross wt., works..lb. .05¼- —
2, 100-124° C., dms., gross wt., works..lb. .06¼- —
3, 125-140° C., dms., gross wt., works..lb. .05¾- —
Paradene prices are freight equalized with Philadelphia, Pa.
Paradura resin, grade AV, 300-lb. bbs., c.l., dlvd..lb. .28 - —
l.c.l. .....lb. .29 - .30
C, c.l., dlvd.....lb. .33 - —
l.c.l. .....lb. .34 - .35
10-P, c.l., dlvd.....lb. .35 - —
l.c.l. .....lb. .36 - .37
46, c.l., dlvd.....lb. .22¼- —
l.c.l. .....lb. .23 - .23½
273, c.l., dlvd.....lb. .23 - —
l.c.l. .....lb. .24 - .25
367, c.l., dlvd.....lb. .25 - —
l.c.l. .....lb. .36 - .37
540, c.l., dlvd.....lb. .35 - —
l.c.l. .....lb. .36 - .37
Paranol resin, extra hard, No. 1, 300-lb. bbls., c.l., dlvd..lb. .15 - —
l.c.l. .....lb. .15½- .16
Extra hard, No. 2, c.l., dlvd.lb. .14 - —
l.c.l. .....lb. .14½- .15
Hard, No. 1, c.l., dlvd.....lb. .13½- —
l.c.l. .....lb. .14 - —

Durez RESIN NEWS

Durez 219 Resin

Several years ago when materials for the manufacture of Durez 220 Resin became scarce, Durez 219 Resin was offered as a replacement. Its excellent properties resulted in its immediate acceptance for use in various types of oleoresinous coatings.

Durez 219 is a terpene phenolic resin having unusually pale color and complete solubility in all types of varnish thinners. Its compatibility with drying oils, both refined and bodied, is equal to that of most soluble resins available. In combinations with soft drying oils it produces finishes which dry rapidly to good hardness and which have good resistance and durability.

Durez 219 Resin can be used to advantage in all types of clear varnishes, enamels —both gloss and semi-gloss, flat—and in emulsion paints.

Fire-Resistant Paint

Fire-resistant properties can be incorporated in a finish by proper formulation and selection of ingredients. A material of good performance is represented by a recent development of our laboratory which is known as P-50896.

Although the paint carries a high percentage of pigment, the brushing and flow properties are quite good. The film dries rapidly, becoming very hard on aging. It is lusterless and has good color and high opacity.

Tests made with a blast lamp, using a coated steel panel, show no blistering or combustion and very little fuming. Best results are obtained in thin films.

Because of the excellent fire-resisting and fire-retarding properties of the P-50896 it should be of interest for many wartime and industrial uses.

Durez 11696 Resin

Durez 11696 is a pure phenolic resin made with C.P. Phenol. It is comparable in general performance to Durez 500 and 525 Resins and can be used as a replacement for these resins. Varnishes and other finishes made with Durez 11696 have high resistance to water, both boiling and cold, and to alkali solutions. Flexibility and durability are very good. The resin is insoluble in petroleum hydrocarbons until cooked at high temperatures in the presence of oils. This insolubility results in good resistance to gasoline and oils, especially in baked films.

Oil-Free Binder

Durez 50800 continues to be in demand for use in extending drying oils by blending directly with oil in making general type finishes and, in some cases, as the complete vehicle without drying oil. The liquid resin is soluble in all common thinners and is compatible with drying oils and resins. It responds to the action of metallic drier in much the same manner as a drying oil. Formulations are available.

Textured Olive Drab Enamel

Specification OQMG No. 134 of the Quartermaster Corps covers a finish for helmet liners. One of the texturing materials recommended is Durez Phenolic Dust. This material is essentially a phenolic compound of variously sized granules...inert to moisture and unaffected by enamel components.

For samples or further information on above Durez resins, write to . . .

DUREZ PLASTICS & CHEMICALS, INC.
331 Walck Road, North Tonawanda, N. Y.

DUREZ

RESINS THAT FIT THE JOB

FOR BAKED COATINGS

Use VELSICOL

AF-3

VEHICLES

IMPERVIOUS

★ TO SALT WATER
★ TO ORGANIC SOLVENTS
★ TO GREASE AND OIL

PROTECTING VITAL WAR EQUIPMENT

For marine motors, shell cases, compressors, compasses, pumps, gauges, dynamos, automotive and electrical products, use Velsicol AF-3, the protective ingredient in your finishes for wartime production! When baked, Velsicol AF-3 vehicles produce films which are exceedingly hard, and impervious to heat, acid, alkali and salt water.

Velsicol AF-3 saves you time and money! It accelerates drying, is compatible with all drying oils, and reduces the proportion of your critical supply of chinawood, dehydrated castor and linseed. Velsicol AF-3 is the answer to many of your wartime problems—write now for full information and samples.

VELSICOL Corporation

GENERAL OFFICES: 120 EAST PEARSON STREET, CHICAGO

VELSICOL

PLANT: MARSHALL, ILLINOIS

Paranol, No. 3, c.l., divd.	lb.	.12½-	—
l.c.l.	lb.	.13 -	.13½
25, c.l., divd.	lb.	.12½-	—
l.c.l.	lb.	.13 -	.13½
25, light, c.l., divd.	lb.	.13 -	—
l.c.l.	lb.	.13½-	—
54-E, c.l., divd.	lb.	.16½-	—
l.c.l.	lb.	.17 -	—
100, c.l., divd.	lb.	.17 -	—
l.c.l.	lb.	.17½-	.18
105-B, c.l., divd.	lb.	.13 -	—
l.c.l.	lb.	.13½-	.14
200, c.l., divd.	lb.	.17½-	—
l.c.l.	lb.	.18 -	.18½
500, hard, c.l., divd.	lb.	.14½-	—
l.c.l.	lb.	.15 -	.15½
extra hard, c.l., divd.	lb.	.17 -	—
l.c.l.	lb.	.17½-	.18
800, extra light, c.l., divd.	lb.	.15 -	—
l.c.l.	lb.	.15½-	.16
800, dark, c.l., divd.	lb.	.14 -	—
l.c.l.	lb.	.14½-	.15
850, c.l., divd.	lb.	.15 -	—
l.c.l.	lb.	.15½-	.16
1000, c.l., divd.	lb.	.14½-	—
l.c.l.	lb.	.15 -	.15½
1700, c.l., divd.	lb.	.16 -	—
l.c.l.	lb.	.16½-	.17
1750, c.l., divd.	lb.	.15½-	—
l.c.l.	lb.	.15½-	—
1855, c.l., divd.	lb.	.13 -	—
l.c.l.	lb.	.13½-	—
3046-C, c.l., divd.	lb.	.22½-	—
l.c.l.	lb.	.23 -	.23½
3101, c.l., divd.	lb.	.15¾-	—
l.c.l.	lb.	.16¼-	.16¾
3645, c.l., divd.	lb.	.15 -	—
l.c.l.	lb.	.15½-	.16
Pentalyn A, non-returnable fiber dms., c.l., f.o.b. cars, destination, zone 1	lb.	.13 -	—
l.c.l., 10 dms., same basis	lb.	.13½-	—
Pentalyn, single dms., same basis	lb.	.14 -	—
smaller lots, same basis	lb.	.19 -	—
G, non-returnable fiber dms., c.l., f.o.b. cars, destination, zone 1	lb.	.14½-	—
l.c.l., 10 dms., same basis	lb.	.15 -	—
single dms., same basis	lb.	.15½-	—
smaller lots, same basis	lb.	.20½-	—
P.H.O., dms., works	lb.	.24 -	—
Piccolyte resins, S-10, S-25, S-40, bulk, net wt., f.o.b. Clairton, Pa., c.l.	lb.	.15 -	—
l.c.l.	lb.	.15½-	—
S-55, S-70, same basis, c.l.	lb.	.16 -	—
l.c.l.	lb.	.16½-	—
S-85, S-100, same basis, c.l.	lb.	.17 -	—
l.c.l.	lb.	.17½-	—
S-115, same basis, c.l.	lb.	.18 -	—
l.c.l.	lb.	.18½-	—
Piccoumaron resins,[1] 420, 420-S, bulk, gross wt., f.o.b. Clairton, Pa., frt. equald.	lb.	.08 -	—
420-T, same basis	lb.	.0675-	—
422-R, 423-R, 425-R, 427-R, bulk, net wt., same basis	lb.	.1075-	—
430, 435, bulk, gross wt., same basis	lb.	.045 -	—
440-T, same basis	lb.	.0625-	—
450, 450-H and 450-S, same basis	lb.	.09 -	—
450-EH, same basis	lb.	.0975-	—
460-T, same basis	lb.	.0575-	—
XX-25, XX-40, bulk, net wt., same basis	lb.	.0625-	—
XX-55, bulk, gross wt., same basis	lb.	.0575-	—
XX-70, XX-100, same basis	lb.	.0625-	—
XX-115, same basis	lb.	.0575-	—
T-115, same basis	lb.	.0725-	—
70%, 420-S Sol., ret. dms., net wt.	lb.	.078 -	—
Pilolite, powder, ton lots, works	lb.	.66 -	—
dm. lots, same basis	lb.	.69 -	—
less dm. lots, same basis	lb.	.74 -	—
milled, ton lots, works	lb.	.75 -	—
dm. lots, same basis	lb.	.79 -	—
less dm. lots, same basis	lb.	.84 -	—
Plyophen, solution, 5000, c.l., works	lb.	.18 -	—
l.c.l., same basis	lb.	.18½-	.19
5010, c.l., same basis	lb.	.18½-	—
l.c.l., same basis	lb.	.19 -	.19½
5011, c.l., same basis	lb.	.17½-	—
l.c.l., same basis	lb.	.18 -	.18½
5012, 5013, c.l., same basis	lb.	.13 -	—
l.c.l., same basis	lb.	.13½-	.14
5014, c.l., same basis	lb.	.14½-	—
l.c.l., same basis	lb.	.15 -	.15½

R

Resinous oil, No. XI, returnable dms., works	lb.	.0160-	—

S

Silene (see Calcium silicate hydrated under C in Current Market Quotations)			
Staybelite ester, No. 1, non-returnable fiber dms., c.l., f.o.b. cars, destination, zone 1	lb.	.17½-	—
10 dms., same basis	lb.	.18½-	—
1 dm., same basis	lb.	.19¼-	—
smaller lots, same basis	lb.	.24¼-	—
No. 2, returnable black iron dms., c.l., f.o.b. cars, destination, zone 1	lb.	.1824-	—
10 dms., same basis	lb.	.19 -	—
1 dm., same basis	lb.	.199 -	—
smaller lots, same basis	lb.	.249 -	—
No. 3, returnable black iron dms, c.l., f.o.b. cars, destination, zone 1	lb.	.1974-	—
10 dms., same basis	lb.	.2049-	—
1 dm., same basis	lb.	.2149-	—
smaller lots, same basis	lb.	.2649-	—
Staybelite, No. 10, non-returnable fiber dms., c.l., f.o.b. cars, destination, zone 1	lb.	.14½-	—
10 dms., same basis	lb.	.14¾-	—
1 dm., same basis	lb.	.15 -	—
smaller lots, same basis	lb.	.20 -	—

V

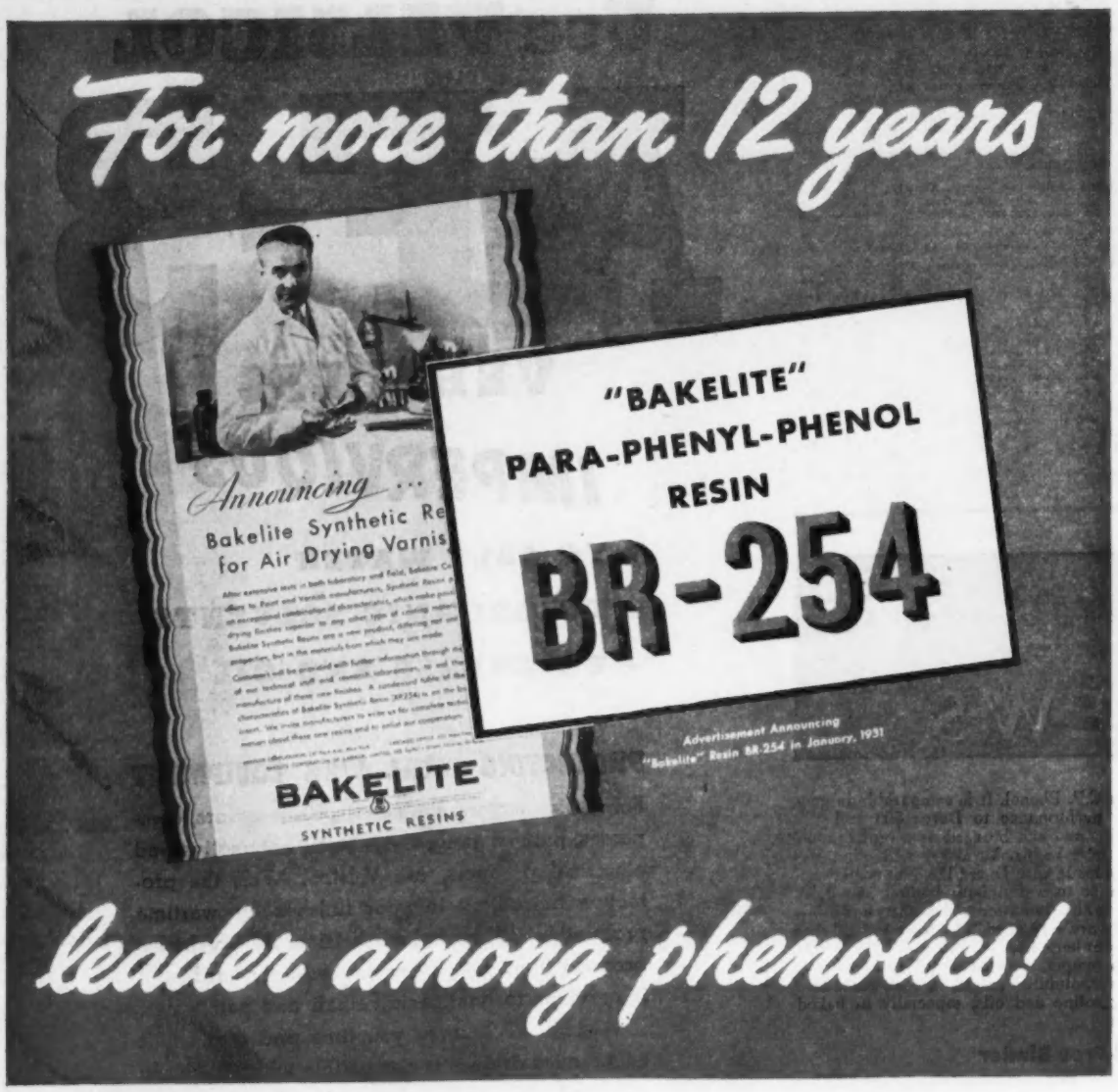
Vanadiset resin, divd. Balto-Washington area, 26-140 tons, shpt.	ton.	32.40	-35.40
1-25 tons, shpt.	ton.	51.40	-63.00
under 1 ton, shpt.	ton.	83.00	- —
Canada, Windsor to Montreal, 26-140 tons, shpt.	ton.	35.60	-38.60
1-25 tons, shpt.	ton.	54.00	-66.00
under 1 ton, shpt.	ton.	86.00	- —
Greater N. Y., North. N. J., Conn., 26-140 tons, shpt.	ton.	31.00	-34.00
1-25 tons, shpt.	ton.	48.00	-60.00
under 1 ton, shpt.	ton.	80.00	- —
Ill., Ky., Tenn., Carolinas, Georgia, Missouri, 26-140, tons, shpt.	ton.	36.00	-39.00
1-25 tons, shpt.	ton.	55.00	-67.80
under 1 ton, shpt.	ton.	87.80	- —
Iowa, Wis., Minn., Florida, Alabama, Mississippi, 26-140 tons, shpt.	ton.	36.00	-39.00
1-25 tons, shpt.	ton.	56.00	-68.80
under 1 ton, shpt.	ton.	88.00	- —
Louisiana, Arkansas, Oklahoma, Texas, Colorado, Nebraska, Kansas, Dakotas, 26-140 tons, shpt.	ton.	41.00	-43.00
1-25 tons, shpt.	ton.	60.00	-80.00
under 1 ton, shpt.	ton.	90.00	- —
New England (except Conn.), 26-140 tons, shpt.	ton.	32.40	-35.40
1-25 tons, shpt.	ton.	53.00	-62.80
under 1 ton, shpt.	ton.	82.00	- —
N. Y. State, Penna. (W. of Harrisburg), Western Maryland, 26-140 tons, shpt.	ton.	32.00	-35.00
1-25 tons, shpt.	ton.	53.00	-65.80
under 1 ton, shpt.	ton.	85.80	- —
Ohio, Mich., Ind., W. Va., 26-140 tons, shpt.	ton.	33.60	-36.60
1-25 tons, shpt.	ton.	54.00	-64.00
under 1 ton, shpt.	ton.	84.00	- —
Pac. Coast, Ariz., New Mex., Utah, Nev., Idaho, Mont., Wyoming and Canada (except Windsor to Montreal), 26-140 tons, shpt.	ton.	51.00	-54.00
1-25 tons, shpt.	ton.	70.00	-82.00
under 1 ton, shpt.	ton.	94.00	- —
Southern New Jersey, East. Pa., Del., 26-140 tons, shpt.	ton.	31.00	-34.00
1-25 tons, shpt.	ton.	50.00	-62.00
under 1 ton, shpt.	ton.	82.00	- —

Vanadiset prices are subject to a 3 percent tax on transportation.

"Vinyliseal" adhesive solutions, vinylite resin AYAB, 69-72% by weight, solution in acetone, A-70, drum lots, f.o.b. South Charleston, W. Va.	gal.	2.75	- —
less than drum lots, same basis	gal.	3.00	- —
AYAF, 35% by weight, solution in acetone, A-35, drum lots, same basis	gal.	2.10	- —
less than drum lots, same basis	gal.	2.50	- —
modified, vinyl acetate resin, 24.5% by weight, solution in toluene, T 24-9, 20-drum lots, same basis	gal.	2.00	- —
drum lots, same basis	gal.	2.25	- —
less than drum lots, same basis	gal.	2.50	- —
28% by weight, solution in 82% methyl acetate, MA 28-14, MA 28-18, 20-drum lots, same basis	gal.	2.15	- —
"Vinylite" resin, modified, vinyl-acetate resin, 14, drum lots, same basis	gal.	2.40	- —
less than drum lots	gal.	2.65	- —
All "Vinyliseal" containers except 1-gal. size are returnable. Extra charge of 40c for 1-gal. containers; 55-gal. drums are valued at $5 each. vinyl VYLF, VYHH, VYNW, powdered, c.l. (30,000 lbs.), paper bags, f.o.b. cars, South Charleston, W. Va.	lb.	.45	- —
10,000 to 29,999 lbs., same basis	lb.	.47	- —
2,000 to 9,999 lbs., same basis	lb.	.49½-	—
200 to 1,999 lbs., same basis.	lb.	.52	- —
1 to 199 lbs., same basis	lb.	.62	- —
VYNS, c.l. (30,000 lbs.), paper bags, same basis	lb.	.63	- —
10,000 to 29,999 lbs., same basis	lb.	.65	- —
2,000 to 9,999 lbs., same basis	lb.	.67½-	—
200 to 1,999 lbs., same basis.	lb.	.70	- —
1 to 199 lbs., same basis	lb.	.80	- —
modified vinyl chloride-acetate, VMCH, powdered, c.l. (30,000 lbs.), paper bags, same basis	lb.	.63	- —
UMCH, powd., basis	lb.	.65	- —
2,000 to 9,999 lbs., same basis	lb.	.67½-	—
200 to 1,999 lbs., same basis.	lb.	.70	- —
1 to 199 lbs., same basis	lb.	.80	- —
vinyl acetate resins, AYAB, lumps (in fiber drums at option of seller); AYAA, AYAF, AYAT, granular (in paper bags only), f.o.b. cars South Charleston, W. Va., freight paid to destination E. of Mississippi river, c.l. (30,000 lbs.)	lb	.40	- —
2,000 to 9,999 lbs, same basis,	lb.	.43	- —
200 to 1,999 lbs, same basis.	lb.	.45	- —
1 to 199 lbs., same basis	lb.	.60	- —
vinyl chloride resins, QYNA, powdered, c.l. (30,000 lbs.), paper bags, f.o.b. cars South Charleston, W. Va.	lb.	.45	- —
10,000 to 29,999 lbs., same basis	lb.	.47	- —
2,000 to 9,999 lbs., same basis	lb.	.49½-	—
200 to 1,999 lbs., same basis.	lb.	.52	- —
1 to 199 lbs., same basis	lb.	.62	- —
vinyl butyral resins, XYHL, XYHM, XYNC, granular, 93 to 97% solids, prices based on contained solids (in fiber drums at option of seller), 200 to 1,999 lbs., same basis.	lb.	.85	- —
1 to 199 lbs., same basis	lb.	1.00	- —

Z

Zinlac, orange or white, 50-gal bbls.	gal.	1.65	- —
kits (5 gals.)	gal.	1.85	- —
jugs (1 gal.)	gal.	2.00	- —



MEETS BUREAU OF SHIPS' SPECIFICATION 52R10 (INT)

THE ADVERTISEMENT reproduced above features the *first* para-phenyl-phenol resin BAKELITE BR-254—announced to the protective coatings' industry in January 1931. Acclaimed then as the outstanding resin for coatings requiring maximum drying speed, durability, and resistance to abrasion, water, and chemicals, it remains unequalled today among all the phenolics.

Almost from the time of its inception, BAKELITE Resin BR-254 has fulfilled Navy requirements for both above-water and underwater coatings. Currently it enables paint and varnish manufacturers to meet, in all respects, the Bureau of Ships' Specification 52R10 (INT).

The high quality of BAKELITE Resin BR-254 has never been altered. Now, as in 1931, it meets the most exacting government and industrial standards of performance—because it continues to be made to equally exacting standards of manufacture. Constant testing and precision control at every step—from raw materials to finished product—insure unfailing uniformity of every batch, year in and year out.

BAKELITE Resin BR-254 is made solely by Bakelite Corporation. For technical data and formula suggestions, write Department 29

BAKELITE CORPORATION
Unit of Union Carbide and Carbon Corporation
UCC
30 East 42nd Street, New York 17, N.Y.

BAKELITE
TRADE MARKS
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SYNTHETIC RESINS

Check List OF MONSANTO PLASTICIZERS

. . . to help you make the most efficient use of available supplies!

With supplies of plasticizers short of wartime needs it is essential that the most efficient possible use be made of every available pound.

That's why it is suggested that you review the Monsanto plasticizers you are now using to make certain they are the best possible materials available for your needs.

A quick glance at this table of the principa Monsanto Plasticizers will give you a preliminary check. A letter will bring you the help of a Monsanto technical service representative in making a final decision. Write: MONSANTO CHEMICAL COMPANY, Organic Chemicals Division, St. Louis 4, Missouri.

CHARACTERISTICS OF MONSANTO PLASTICIZERS

	Mol. Wt.	Color and Form	Boiling Point	Cryst. or Melt. Point	Sp. G.	Lbs. per Gal.	Refrac. Index	Evap. Rate Gms./sq.cm/hr/ 100°C	Solubility in Water	Retentivity in N/C	Retentivity in Ac/C	Light Fastness in N/C	Light Fastness in Ac/C	USES
Tricresyl Phosphate	368	Colorless liquid	295°C/13 mm	Non-cryst., solid at −35°C	1.165/20°C	9.7	1.556/20°C	0.00000708	Less than 0.002% at 85°C	100 plus	0	Poor	—	Excellent compatibility with most resins and plastics except cellulose acetate; imparts excellent flexibility with a minimum decrease in tensile strength; excellent fire retarding properties.
Triphenyl Phosphate	326	White flakes	245°C/11 mm	48.5°C	1.268/60°C	10.5	———	0.00000028	0.001% at 34°C 0.002% at 54°C	100	80	Poor	Fair	Standard fire retarding plasticizer especially for cellulose acetate; gives clear tough compositions of good flexibility without tackiness.
Santicizer 8	199	Light amber liquid	———	———	1.188/25°C	9.9	———	0.0002659	0.13% at 23°C 0.213% at 48°C	100	90	Poor	Good	Excellent plasticizer for cellulose acetate, giving brilliance and polish; valuable plasticizer for coating designed to withstand petroleum products; increases flexibility of shellac and protein plastics.
Santicizer 9	171	White granules	———	105°C	1.313/25°C	10.9	———	0.000053 at 65°C	1% at 34°C	25–30	25–30	Poor	—	Imparts gloss; gives smooth working and uniform curing of molded phenolic and urea resins; blends readily with most synthetic resins; does not impart softening action of liquid plasticizers.
Santicizer B-16	336	Colorless liquid	219°C/5 mm	Below −35°C	1.097/25°C	9.15	1.490/25°C	0.0000881	0.0012% at 30°C	100	20–30	Excellent	Excellent	With nitrocellulose, gives clear, brilliant films that are flexible, tough, moisture resistant and have good weathering qualities; solvent for and imparts plasticity to most synthetic resins. Non-toxic.
Santicizer E-15	280	Colorless liquid	190°C/5 mm	20°C	1.180/25°C	9.84	1.498/25°C	0.0001106	0.0175% at 30°C	100	100	Excellent	Excellent	With both acetyl and nitrocellulose, it gives clear, tough flexible films that have much increased resistance to moisture penetration. Non-toxic.
Santicizer M-17	266	Colorless liquid	189°C/5 mm	Below −35°C	1.220/25°C	10.2	1.504/25°C	0.000221	0.09% at 30°C	100	100	Excellent	Excellent	Imparts high degree of permanent plasticity; excellent gasoline resistance. Non-toxic.
Dibutyl Phthalate	278	Colorless liquid	206°C/20 mm	−35°C	1.047/20°C	8.75	1.490/25°C	0.000221	0.001% at 30°C	100	Less than 20	Excellent	—	A standard lacquer plasticizer giving high degree of plasticity; excellent light stability and good weathering qualities.
Diethyl Phthalate	222	Colorless liquid	295°C	−0.3°C	1.123/20°C	9.35	1.503/20°C	0.000617	0.058% at 30°C	100	100	Excellent	Excellent	Generally used in mixture with Dimethyl Phthalate as a plasticizer for cellulose acetate.
Dimethyl Phthalate	194	Colorless liquid	282°C	0°C	1.196/15.6°C	10.0	1.515/20°C	0.001925	0.4% at 32°C 0.6% at 63°C	100	100	Excellent	Excellent	Standard cellulose acetate plasticizer generally used in mixtures with diethyl phthalate or other plasticizers.
Diphenyl Phthalate	318	White powder	———	69°C	1.28/25°C	10.68	1.572/74°C	———	Insol.	65	20	Poor	—	Compatible with nitrocellulose and with the sulfonamide, phenolic, polystyrene and vinyl types of resins; gives increased water resistance to all compositions in which it is used.

Tricresyl Phosphate and Triphenyl Phosphate have excellent Fire Retardation.

MONSANTO CHEMICALS

SERVING INDUSTRY...WHICH SERVES MANKIND

"E" FOR EXCELLENCE—The Army-Navy "E" burgee with two stars, "representing recognition by the Army and the Navy of especially meritorious production of war materials" over a two-year period, flies over Monsanto's executive offices in St. Louis and over Monsanto plants at Anniston, Ala., and Monsanto, Tenn. The Army-Navy Production Award also has been won by five Monsanto plants at St. Louis, Mo., Monsanto, Ill., Karnack, Texas and Springfield, Mass.

"And Freedom's banner streaming o'er us"

Oil, Paint & Drug Reporter

Founded October 18, 1871, by
William O. Allison
Directed, 1900-1942, by Harry J. Schnell

Published every Monday by Schnell Publishing Company, Inc.:—William S. Auchincloss, President and Treasurer; Jean Schnell Auchincloss, Vice-President; Hugh Craig, Vice-President; Burr Price, Vice-President; M. B. Powers, Assistant Treasurer; A. L. Koch, Secretary. Address 59 John Street, New York 7, N.Y., U.S.A. Telephone REctor 2-9620. Cable Address Reporter, New York.

Incorporating the Drug, Paint and Oil Trade, The New York Drug Bulletin, The Weekly Drug News, the New York Druggists' Price Current, The Soap Makers Journal, the Oil and Paint Review, and International Petroleum Reporter.

Annual subscription rates including postage in the United States and possessions, Cuba, Mexico, Central America, and South America, $5.00; Canada and Newfoundland, $7; other countries, $10.00; single copies, 25 cents each.

Member of Audit Bureau of Circulations.

Entered at the Post Office at New York as second-class matter January 15, 1884, under the act of March 3, 1879.

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SCHNELL PUBLISHING COMPANY, INC.

Vol. 144 November 1, 1943 Number 18

Indicators of Tomorrow

For all the many sorts of interests in the fields of mining, extracting, converting, compounding, and processing chemicals and related materials there is much that is usefully informative in the contributions to the Cleveland technical symposium of the Federation of Paint and Varnish Production Clubs. Paint and varnish are but one facet of the protective coatings industry. That industry, in turn, occupies but one corner of the field of industrial interest in its specific materials. Protective coatings, themselves, are the needs of many industries. And behind it all are the economic fundamentals of production out of the earth's mineral, animal, and vegetable resources. Paint and varnish production is, in truth, the least of the many aspects of an all-embracing industrial community of interests. Data respecting it are everybody's meat. So, the compilation of such data in the report of the Cleveland symposium elsewhere in this issue of *OPD* is everybody's reading.

Much food for thought of the future was presented in the paint technicians' conference. Some of this related to the materials of paints, varnishes, and lacquers; some had to do with the formulation of these products; some was centered upon their applications. The trends in all three lines are even now somewhat discernible. They can be developed as their potentialities are studied, or they can at least be checked if adequate understanding of their full economic significance so dictates. And it is most important that such a measure of relevant and reliable information be acquired as will assure adequate understanding through proper evaluation.

Much actual information of the sort required in planning and programming the future of paints, varnishes, and lacquers, of protective coatings as a whole, and of the many mineral, animal, and vegetable materials of their composition is available in the report of the technical symposium. Much to stimulate further search for information also is there. With it all is an implication or more of trends of thinking in those fields. And trends of thinking are today not the least significant indicators of tomorrow's actions.

—O-P-D—

These Are Everybody's Jobs

Among the many thought-stimulating contributions to the technical symposium on paint production last week none has a wider ramification of interest than the sketchy picture of the problems of protecting against corrosion the billions of dollars' worth of vessels and other naval equipment which will be laid up after the close of the war. It is difficult for anyone, even a naval expert, to grasp the magnitude of that problem and of the task from which it derives. And not only paint and varnish production men will be needed in full contribution of skill and effort in the performance of that task.

Working from the outside inward, one's thoughts first endeavor with more or less success to grasp the voluminousness of the supply of coatings which will be required to cover hulls and superstructures with adequate protection. It is a more difficult job of mental application to think out what should be the nature of these coatings for the important role which they will be called upon to play for an indefinite period. Today's need is more for concealment than for protection against natural phenomena. A dull, dingy, somewhat rusty appearance is the desideratum of today's exigencies. Dullness may have its place in the different job of postwar protection, but dinginess is indicative of ineffectiveness, and rust will be one of the greatest enemies.

There will be jobs, too, of internal protective coating, with a variety of destructive forces to repel. Also there will be special jobs in the protection of machinery in such a manner that its return to work may not be unnecessarily hampered. A different type of coatings will play a large part in that job. There will also be an important place for desiccating agents for assurance against inimical atmospheric humidity. These agents will have a place also in the protection of delicate instruments, many of which will have to be removed to special storage.

That, to reiterate, is but one of many big jobs for many minds and hands to which the paint technical symposium points. These are jobs for tomorrow's doing. But, the getting ready to do them satisfactorily is for today's study. Scientist, technician, industrialist, and economist in a dozen lines will be needed in the doing of these jobs. They are needed now in the learning of them and of their doing. It is desirable and it is necessary that they begin, individually, in their own groups, and as one essential entity, to get ready.

—O-P-D—

Whoso Deserves Will Get

He who would have what he considers his just share of postwar business must be prepared fully to deserve it. The business will go to whoever has properly planned to get it. And that means that, to the extent that postwar business planning is left to government, government will get the business—and private enterprise will work for government.

That is what makes it difficult to understand why business persists in calling upon government for a plan for this or that or another matter of postwar business. Why does business, for example, appeal to government to formulate and pronounce a plan for the postwar disposal of the plants which private enterprise now is operating for government? Can business be so naive as to believe that a governmental plan of such disposal will make any change in the existing relationship of government and private enterprise with respect to ownership and operation of these plants? Why should it? The mere fact that government will not then have imperative need for the products which are now being turned out in these plants does not denote that it will have no desire to retain the plants and no purpose to make use of them.

If private enterprise has any intention of making postwar use of the government-owned war plants, it must have ready a plan for their use. This plan will have to be sound—by the criterions of the new, war-shaped economy, be it understood. And to the extent that private enterprise continues, not only to let government shape the postwar economy, but to petition government to do that shaping, in the same measure will it have to adapt itself to the resulting pattern.

—O-P-D—

The Same Old Story

After having given promise of favoring an honest system of taxation, the ways and means committee has returned to the long customary "we-can-get-away-with-these" criterion in its selection of taxables adequate to the raising of extra billions for which it well knows there is no actual need.

An honest Federal tax system must be based directly on ability to pay and the obligation of every citizen to contribute to the support of his government. There is only one form of taxation which meets those conditions: that is an individual income tax imposed without fear or favor, graduated from the lowest income to the highest income, and collected at the source. Of course, such a tax demands openness of approach and frankness of demand. It does not fit well with political expediency.

There is still a tendency to favor a sales tax instead of an extension of the income tax as the means of reaching the smaller-income groups. This distinction is illogical. Nothing can be said in favor of a sales tax which does not apply at least equally to a tax on what makes sales possible, that is, on incomes. And it is not possible to lay against a properly constructed income tax system the major faults of a sales tax. These are (1) discrimination against the low-income taxpayer in respect of his proportionate burden; (2) obligation of an earner with three dependents to pay four times as much in taxes as is paid by the equal earner with no dependents; (3) depriving of the government of a substantial part of the aggregate collections retained by sellers; and (4) favoritism on the part of sellers which destroys the equitable distribution of the tax. The criticism of an income tax on the grounds of evasions applies in no lesser degree to a sales tax.

The excise taxes more than ever in favor with the committee are a relic of puritanical purposes of moral and social reform, plus the worst of more modern economic reform policies. They have no place in openminded, tolerant society. But, they don't alienate votes!

OPD—11-1-1943

Analysis

● Chas. Pfizer & Co., Inc. has always regarded the careful and intelligent examination of all products as not only a necessary but also an important part of its manufacturing processes. We believe that the uniformity and high purity of our products cannot be assured without thorough examination and that it involves more than just the routine checking of materials against certain specifications.

The personnel of our Analytical Department is of the highest caliber and every effort has been made to make the most modern equipment available. Through thorough and careful analysis it has been possible for this department to make many suggestions which have resulted in improved products and improved methods of manufacture.

The research division of this department is constantly striving to improve or devise new techniques for the examination and analysis of our materials. New products, too, have always occasioned considerable analytical research, it often having been necessary to revise existing analytical methods to a great extent, or even to devise entirely new procedures. Needless to say, all of this would be impossible if analysis were considered to be merely a routine matter.

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Heavy Chemicals

Contract Announcements for 1944 Shipment Reveal No Price Changes—Heavy Withdrawals Keep Supply Situation Tight

Announcement of future contract prices for several important industrial chemicals was an added feature of interest last week. In every instance the 1943 basis covering prices and terms, was extended over 1944. The chemicals involved included chlorine, potash carbonate, potash caustic, soda ash and soda caustic. Ammonia chemicals were previously reported. While some business was entered, the announcements stimulated attention and the outlook suggested the placing of heavy tonnage orders over the remainder of the year.

Light supply conditions previously noted for many varieties of chemicals remained unaltered. Those close to the pulse of the alkali markets asserted that recent export restrictions had not exerted any loosening influence on the tight supply situation in either soda caustic or soda ash to date. In other directions withdrawals of several chemicals as produced for either direct or indirect use in the war effort, were sufficient to hold the tonnage available for civilian consumption at a relatively low level.

Copper sulphate stocks continued to increase and a satisfactory reserve was piling up for agricultural use next year. Meanwhile, the plug was pulled for export, and a rather soporific situation gave way to a satisfactory flow of foreign business. Ordnance shipments of sulphuric acid have started to reach the superphosphate plants. Some confusion about routing deliveries was reported, but this condition is expected to be ironed out promptly. Bureau of Mines reported important new reserves of bauxite discovered in Alabama. Five private companies have started commercial development of eight of the new deposits.

An amendment to the internal revenue code to exempt the mining of fluorspar and the production of hydrofluoric acid from the excess profits tax was introduced in the house October 25 by Representative Wesley Disney of Oklahoma. The bill (H. R. 3519) would make the exemption applicable for taxable years beginning after December 31, 1942.

Paper production as a percentage of six-day capacity was 88.5 in the week ended October 23, according to the American Paper and Pulp Association. This compares with 90.5 in the previous week and 91.6 percent a year ago.

Price Changes

Advanced

None

Reduced

None

Comparative Values

Index numbers compiled from twenty-five typical chemicals on the basis of 100 for August 1, 1914, compare as follows:—

Last week.	Prev. week.	Last month.	Last year.
170.6	**170.6**	**170.6**	**170.2**

Index numbers compiled from twenty typical acids on the basis of 100 for August 1, 1914, compare as follows:—

Last week.	Prev. week.	Last month.	Last year.
116.0	**116.0**	**116.0**	**116.0**

Market news that may have developed after this report was sent to press will be found on page 4.

Ammonia Bicarbonate.—Sales maintained a satisfactory average under a favorable supply situation. Buying interest was confined chiefly to actual requirements. The price tendency was steady and without suggestion of change.

Ammoniac Sal. — White granular continued to command a fair amount of buying interest. Small lots received the greatest inquiry with the battery trade prominent in the number of transactions. Production continued adequate to meet all inquiries.

Calcium Chloride. — Production remained inadequate to meet demand promptly. An accumulation of buying orders representing the prompt and future requirements of consumers was not satisfied, in fact some producers were considerably behind contract schedules. The market's position remained definitely tight.

Chlorine.—Contract deliveries covering requirements over 1944 were offered at the same basis as 1943. Demand for November-December shipments continued heavy from the manufacturers of chemicals essential to the war industry. The drain on production was sufficient to keep the available supply at a relatively low level.

Copper Sulphate. — Production throughout the past month continued heavy and a satisfactory addition to the stockpile was recorded at the close. The increase was an assurance of supplies to cover the agricultural demand that will develop after the turn of the year. Prospects looked favorable for a steady increase in stocks during the next few months. Export business showed expansion. The off season usually affords freer releases, and this year has been no exception. Industrial demand was reported normal with relatively little variation from other years.

Nickel Sulphate. — Liberal stocks that were on hand at the beginning of the year have almost entirely disappeared under an increasing demand for plating purposes. The current scarcity has forced the market into a relatively tight position. The stringency was believed to be temporary as reports suggested an increase in production in the near future.

Phosphorus. — WPB has requested producers to continue operations during the usual "shut down period"—October-November-December in order to assure output for the Chemical Warfare Service. OPA defines actual cost of production of the phosphorus produced with the high cost power as the sum of the cost of power used and the manufacturing cost, which includes all other costs except general administrative and selling expense, income and excess profits taxes, provision for war reserves or reserves for contingencies, and similar items. Heavy withdrawals for war production use have kept the market in a definitely tight position.

Potash Carbonate. — Contracts for shipment over next year have been offered at the same prices and terms as those for 1943.

Potash Caustic.—Makers have accepted contracts covering requirements over next year at the same prices and terms as those that prevailed over 1943.

Soda Ash.—Contracts over next year were offered at the same terms and prices as those for shipment over 1943. The market remained in a definitely tight position, the recent restrictions on export trade having no apparent influence to ease the supply situation to date.

Soda Caustic.—About the only new feature to the situation was the announcement that contracts for delivery over next year would be accepted at the same prices and terms as those current during 1943. The market showed no relaxation from its former tight position.

Acids

Acetic. — Heavy demand reported from the textile and plastic industries. Shipments regulated by allocated orders. Production below requirements for war and essential industries.

Chromic. — Movement under the guidance of allocation. Demand sufficient to keep supply situation relatively tight.

Hydrofluoric. — Inquiry continued fairly heavy for industrial use. Recent

Current prices on heavy chemicals are given in the alphabetical list of prices beginning on page 9

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drain of output kept available stocks low while container shortage caused more or less delay in deliveries.

Muriatic.—No relaxation in buying interest reported. War industries and civilian consumers taking material as produced, thereby preventing the accumulation of excess stocks.

Nitric.—Steady withdrawals for war industries and civilian use are keeping supplies relatively low. Reduction in allocations of soda nitrate has left the supply situation mostly up to the synthetic producers.

Sulphuric. — Buying interest continued active with material moving rapidly into consuming channels as soon as produced. Heavy shipments reported for war indstries and for agricultural use. The market remained devoid of excess stocks, although prospects appeared favorable for demand being fully satisfied. Ordnance plants have started shipments to fertilizer factories.

Insecticides

Although buying interest was not pronounced for the different insecticides, producers were using the off season to increase their reserves for use next year. The buying outlook appeared favorable through prospects of a greatly increased farm acreage and an expansion in the number of victory gardens. Demand is expected to increase materially after the turn of the year, while some new business for Florida and the South is anticipated during the latter part of this month. Judging from reports, a larger production of copper insecticides and fungicides may be available during 1944.

—O-P-D—

Chemicals Loading Order Revised

—Continued from page 3

trated; lye-based cleaning compounds; modified soda ash; sal soda; sesquicarbonate of soda; silicate of soda, dry; soda ash; soda bicarbonate; and sodium-based cleaning compounds; in packages; mixed carloads; shall be loaded to a weight not less than 60,000 pounds.

30. Ammonium bicarbonate. In barrels less than 500 pounds gross weight each, shall be loaded on end, two tiers high, covering the entire floor space of the car.

35. Ammonium chloride. 40. (a) In bags, paper, shall be loaded to a weight not less than 80,000 pounds; 45. (b) In bags, textiles, shall be loaded three tiers high, covering the entire floor space of the car; 50. (c) In barrels, less than 500 pounds gross weight each, shall be loaded on end, two tiers high, covering the entire floor space of the car.

55. Bleaching powder and caustic soda, dry. 60. (a) In barrels, casks, or drums, less than 500 pounds gross weight each, shall be loaded on end, two tiers high, covering the entire floor space of the car; 65. (b) In barrels, casks, or drums, 500 pounds or more gross weight each, shall be loaded on end, one tier high, covering the entire floor space of the car.

70. Calcium chloride, other than liquid. 75. (a) In bags, shall be loaded to a weight not less than 80,000 pounds; 80. (b) In barrels, casks, or drums, 500 pounds or more gross weight each, shall be loaded on end, one tier high, covering the entire floor space of the car.

85. Dimethylolurea. In bags, shall be loaded to a weight not less than 40,000 pounds.

90. Hartsalz, kainit, manure salts, double manure salts, muriate (potassium chloride), nitrate (saltpetre), sulphate, and sylvinit: In packages, shall be loaded to a weight not less than 80,000 pounds.

95. Lye, concentrated, and lye-based cleaning compounds. In packages, shall be loaded to a weight not less than 50,000 pounds.

100. Modified soda ash. In packages (other than in bags, barrels, casks or drums as covered by items 150, 155 and 160), shall be loaded to a weight not less than 60,000 pounds.

105. Paradichlorobenzene. In barrels, less than 500 pounds gross weight each, shall be loaded on end, two tiers high, covering the entire floor space of the car.

110. Potassium carbonate. 115. (a) In barrels, less than 500 pounds gross weight each, shall be loaded on end, two tiers high, covering the entire floor space of the car; 120. (b) In barrels, casks, or drums, 500 pounds or more gross weight each, shall be loaded on end, one tier high, covering the entire floor space of the car.

125. Sal soda. In packages, shall be loaded to a weight not less than 55,000 pounds.

130. Silicate of soda, dry. 135. (a) In barrels, less than 500 pounds gross weight each, shall be loaded on end, two tiers high, covering the entire floor space of the car; 140. (b) In bags, shall be loaded four tiers high, covering the entire floor space of the car.

145. Soda ash. Including modified soda ash and cleaning compounds based upon soda ash, and sequicarbonate of soda; 150. (a) In bags, shall be loaded to a weight not less than 80,000 pounds; 155. (b) In barrels, less than 500 pounds gross weight each, shall be loaded on end, two tiers high, covering the entire floor space of the car; 160. (c) In barrels, casks, or drums, 500 pounds or more gross weight each, shall be loaded on end, one tier high, covering the entire floor space of the car.

165. Soda, bicarbonate. In packages, shall be loaded to a weight not less than 45,000 pounds.

170. Chemicals, not otherwise named herein. 175. (a) In barrels, casks, or drums, 500 pounds or more gross weight each, shall be loaded on end, one tier high, covering the entire floor space of the car; 180. (b) In boxed carboys, shall be loaded not less than three tiers high, the first tier to be loaded four carboys across the width of the car floor the entire length of the car, the second tier to be loaded three carboys across the width of the car the entire length of the car, and the third tier to be loaded two carboys across the width of the car the entire length of the car, subject to Interstate Commerce Commission regulations on specific commodities.

—O-P-D—

Wooden Containers Use Narrowed

—Continued from page 5

household; beverages, carbonated, malt or alcoholic and concentrates, except in multiple trip returnable containers; bicarbonate of soda; brushes and brooms; candles; cosmetics; dentrifices; fertilizers; hair, dressing and dyes, shampoos and tonics; paint*; perfumes and toiletries; polishes*; scouring and cleaning compounds and detergents; soap*; soda ash; starch*; varnishes*; waxes*.

In the case of the following commodities the use of wooden containers are put on a quota based on a percentage of the 1942 use:—

Animal proprietary drug remedies, 65 percent; linoleum, 80 percent; pottery products, household (except ornamental), 80 percent; printing and publishing products, except those listed elsewhere, 80 percent.

(*Whenever an asterisk appears after a commodity the restriction applies to this commodity only when packaged in glass, textile, metal or paper.)

—O-P-D—

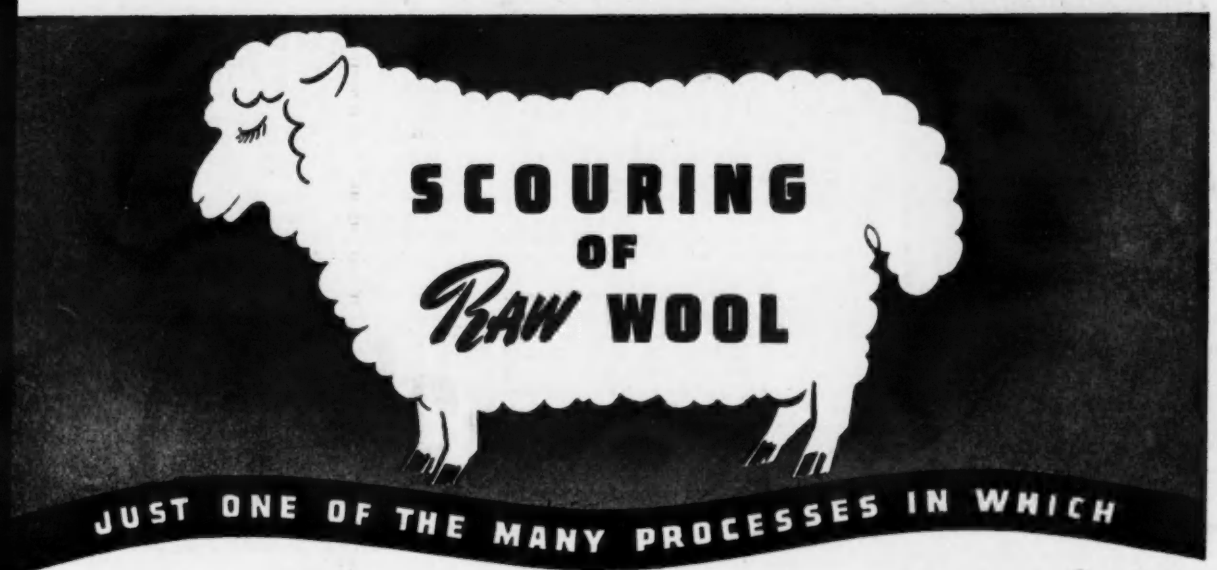
Motor Carriers Must Not Extend Routes

—Continued from page 3

in a delivery area, provided the change consists of a consolidation of existing routes or the substitution of a new route for an existing one. However, if the consolidation or substitution results in an enlargement of the delivery area or an increase in total route mileage, prior approval must still be obtained. All requests for approval of new or extended operations must be made in writing to the carrier's district office of the ODT's Division of Motor Transport. Before the ODT district office will approve any such extension or inauguration of operations, the carrier will be required to show that the new service is "necessary to the war effort or to the maintenance of essential civilian economy."

—O-P-D—

Jenco Chemical Specialties is the firm name under which George R. Jenkins and H. S. Shaw have published an intention to conduct business at 928 Allen avenue, Glendale, Calif.



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Soda Ash, Caustic Soda, Chlorine Prices Issued

Solvay Sales Corporation, this city, has announced that, effective October 25, contracts for 1944 deliveries of soda ash, caustic soda and chlorine are being written. No changes have been made in price schedules currently effective. Prices for carloads, f.o.b. seller's works, are as follows:—

Soda Ash, 58 Percent

	Per 100 lbs.
Light, bulk	$0.90
bags, paper	1.05
bags, burlap	1.13
barrels	1.35
Extra light, bulk	.90
bags, burlap	1.13
barrels	1.45
Dense, bulk	.95
bags, burlap	1.15
barrels	1.35

Caustic Soda, 76 Percent

Solid, drums	$2.40
Flake, drums	2.70
Ground, drums	2.70
Powdered, drums	2.70
*50 percent liquid, seller's tank cars	1.95
buyer's tank cars	1.925
*73 percent liquid, seller's tank cars	2.00
buyer's tank cars	1.975

* Basis 76 percent Na_2O.

Liquid Chlorine

Single unit tank cars	$1.75
Multiple unit containers—	
3 cars or more	2.00
2 cars	2.50
1 car	3.00

—O-P-D—

Mellon Institute Gives Technochemical Lectures

A series of fourteen lectures on chemical and related technology today and tomorrow is being given by specialists of Mellon Institute of Industrial Research. The lectures were started October 14; they are open to all scientific students at the University of Pittsburgh and to members of the institute.

Dr. E. R. Weidlein lectured October 14 on "Postwar Problems of the Chemical Industries." The second lecture, October 21, was by Dr. H. J. Rose, his subject being "Trends in Fuel Technology." The following lectures are to come:—

"Utilization of Low-Grade Ores," Dr. H. J. Read: November 4.
"Light Metals and Alloys," Dr. L. A. Carapella: November 18.
"Powder Metallurgy," Dr. D. F. Helm: December 2.
"Protective Coatings," Dr. G. H. Young: December 16.
"Coal Distillation Products," W. L. Glowacki: January 6.
"Chemical Derivatives of Hydrocarbons," Dr. R. L. Wakeman: January 13.
"Catalytic Hydrogenation," Dr. B. B. Corson: February 10.
"Utilization of Wood Constituents," Dr. L. T. Sanborn: February 17.
"Aviation Construction Materials," Dr. J. A. Sauer: March 2.
"Cereal Products," Dr. R. J. Sumner: March 16.
"Food Dehydration," Dr. G. E. Helz: April 6.
"Control of Industrial Health Hazards," Dr. F. R. Holden: April 20.

—O-P-D—

Phelps Dodge to Operate DPC $16,000,000 Plant

Phelps Dodge Copper Products Corporation, this city, has entered into a contract with the Defense Plant Corporation to provide plant facilities in Indiana at a cost of approximately $16,000,000. Phelps Dodge Copper Products Corporation will operate these facilities with the title remaining in Defense Plant Corporation.

—O-P-D—

Croxton Advanced at Battelle

Dr. Frank C. Croxton has been named supervisor of organic chemistry at Battelle Memorial Institute, Columbus, Ohio. Prior to his affiliation in 1939 as assistant supervisor of the institute staff, Dr. Croxton was associated for nine years with the research laboratories of the Standard Oil Company of Indiana, Whiting, Ind.

—O-P-D—

Mathieson Alkali Plant Adds Star to 'E' Flag

In recognition of its continued contributions to the war effort, the Niagara Falls plant of the Mathieson Alkali Works, Inc., this city, has been authorized to add a white star to its "E" flag.

—O-P-D—

Bonide Chemical Company, Utica, N. Y., has filed a certificate of voluntary dissolution with the Secretary of New York State.

Kenya Pyrethrum Seed Collected for Russia

Collection of some 20,000 pounds of pyrethrum seed has been completed in Kenya, East Africa, for shipment to Russia. It is to be used in replanting about 7,500 acres of Caucasian fields devastated by war.

Several months ago 10,000 pounds of Kenya pyrethrum seed was sent to Brazil at the request of BEW. Other recent shipments included 5,000 pounds to India and smaller lots to Australia, Belgian Congo, Ceylon, Egypt, Jamaica, Nigeria, and Nyasaland.

The British Ministry of Supply has made a new contract with Kenya pyrethrum growers guaranteeing to purchase until the end of 1947 their entire production from a maximum of 50,000 acres to be planted this year. No additional acreage is to be planted without permission from the ministry.

—O-P-D—

N.Y. Chemists' Institute Chapter to Meet Nov. 19

The New York chapter of the American Institute of Chemists will hold a meeting at the Building Trades Employers' Association Club Rooms, this city, November 19. Under the chairmanship of Dr. M. L. Hamlin, of the Barrett Company, the meeting will have as speakers Dr. Charles Glen King, scientific director of the Nutrition Foundation, and Harry B. McClure of the Carbide and Carbon Chemicals Corporation. Dr. King will discuss "The Chemist's Place in Postwar Nutrition." Mr. McClure's subject is "Newer Products of the Alifatic Chemical Industry."

—O-P-D—

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REJECT—2,413 bgs, Kind & Knox Gelatine Co
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19 cs, N Wagman Co
8 cs, Arnhold & Co
10 cs, Pittsburgh Plate Glass Co
157 cs, F H Cone & Co
7 cs, Robert Schwarz Bristle Corp
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1,000 bgs, 130,000 lbs, F H Paul & Stein Bros
CASTOR BEANS—762 bgs, 114,300 lbs, Second National Bank
2,550 bgs, 382,500 lbs, Spencer Kellogg & Sons
7,616 bgs, 1,212,400 lbs, Bankers Trust Co
1,016 bgs, 152,400 lbs, Continental Illinois Bank Trust Co
13,032 bgs, 1,954,800 lbs, Irving Trust Co
4,360 bgs, 654,060 lbs
CHALK, PRECIP—600 bgs, 102,000 lbs, H J Baker & Bro
CINNAMON—408 bgs, 40,800 lbs, Volkart Bros
311 bgs, 31,100 lbs, A G Dunn
90 bgs, 9,000 lbs, Joensson & Cross
8 bgs, 800 lbs, F W Mead & Co
20 bgs. 2,000 lbs, Holland Colombo Trading Society
350 bgs, 35,000 lbs, Catz American Co
500 bgs, 50,000 lbs, Willets Co
6 bgs, 600 lbs, Dodwell & Co
200 bgs, 20,000 lbs, Knickerbocker Mills Co
100 bgs, 10,000 lbs, Wessel, Duval & Co
150 bgs, 15,000 lbs, Chase National Bank & Trust Co
25 bgs, 2,500 lbs, Guaranty Trust Co
COCOA BEANS—4,008 bgs, 440,880 lbs, Machado & Co
6,142 bgs, 686,620 lbs, General Food Corp
7,859 bgs, 863,500 lbs, Wessel, Kulenkampf & Co
6,150 bgs, 676,500 lbs, Curacao Trading Co
500 bgs, 55,000 lbs, Kennedy, Butcher & Co
2,000 bgs, 220,000 lbs, Carl M Loeb, Rhoades Co
2,000 bgs, 220,000 lbs, Middleton & Co
16,000 bgs, 1,760,000 lbs, Wessel, Kulenkampf & Co
5,000 bgs, 550,000 lbs, General Cocoa Co
8,000 bgs, 880,000 lbs, A C Israel Commodity Co
4,000 bgs, 440,000 lbs, Cocoa Trading Co
5,000 bgs, 550,000 lbs, Nieschlag & Co
6,000 bgs, 660,000 lbs, Rockwood & Co
7,000 bgs, 770,000 lbs, Hershey Chocolate Co
2,000 bgs, 220,000 lbs, Farr & Co
8,000 bgs, 880,000 lbs, General Food Corp
CORN SYRUP—305 bbls, Pepsi-Cola Co
345 bbls, Edelbrau Brewing, Inc
COTTONSEED MEAL—21,376 bgs, Swift & Co
18,850 bgs, Anderson, Clayton & Co
GLUESTOCK—172 bls, H Remis & Co
GLYCERIN—811 dms
GYPSUM—400 bgs, Whittaker, Clark & Daniels
HAIR, HORSE—20 bls, Corn Exchange Bank & Trust Co
26 cs, Corn Exchange Bank & Trust Co
20 cs, Gerhart L Kobrok
88 cs, H Sherman Co
18 cs, National City Bank
62 cs, A A Krejtman, Inc
20 bls, Brush & Weaving Mfg Co
42 cs, H Rosenhirsch Co
19 cs, Chestnut, Cooper & Co
10 cs, Arnhold & Co
54 cs, Samuel Zeitlin Sons
50 bls, Brown Bros, Harriman Co
HORSE MANE—20 bls, Brush & Weaving Mfg Co
HORSE TAIL—150 cs, E B & A C Whiting
338 cs, F H Cone & Co
25 cs, Hair & Fiber Supply Co
60 bls, Liberty Title & Trust Co
33 cs, Liberty Title & Trust Co
3 bls, American Bristle & Hair Drawing Co
68 cs, Strauss & Reis
7 cs, Robert Schwarz Bristle Corp
MENTHOL—17 cs, Republic Chemical Co
NUX VOMICA—370 bgs, Volkart Bros
OCHER—560 bgs, Whittaker, Clark & Daniels
280 bgs, T H Deutz
OIL, CASTOR—808 dms, First National Bank
6,940 dms, National City Bank
935 dms
CINNAMON LEAF—4 dms, P R Dreyer
4 dms, Volkart Bros
CITRONELLA—5 dms, Fritzsche Bros
3 dms, Dodge & Olcott Co
4 dms, Orbis Product Corp
10 dms, Magnus, Mabee & Reynard
20 dms, Geo Lueders & Co
34 dms, Volkart Bros
3 dms, R J Prentiss & Co
2 dms, Holland Colombo Trading Society
5 dms
COD—156 cks
23 dms
CODLIVER—300 bbls
204 dms
COTTONSEED—1,585 dms, Irving Trust Co
LEMONGRASS—2 dms, B T Bush Co
2 dms, Colgate-Palmolive-Peet Co
2 dms, Givaudan-Delawanna
2 dms, Van Ameringen-Haebler Co
21 dms, Volkart Bros
OIL, OITICICA—153 dms, First National Bank
660 dms, Irving Trust Co
PAPAIN—25 cs, S B Penick & Co
20 cs, Otto Gerdau Co
40 cs, Oceano Shipping Co
15 half cs, Dodwell & Co
20 half cs, R J Prentiss & Co
8 cs, Holland Colombo Trading Society
14 half cs, C L Huisking & Co
SESAME SEED—5,000 bgs, Bankers Trust Co
SODA PRUSSIATE—282 cgs, 119,300 lbs, American Cyanamid & Chemical Corp
TANKAGE—4,763 bgs, 476,300 lbs, Swift & Co
4,046 bgs, 404,600 lbs, Tupman, Thurlow & Co
3,044 bgs, 304,400 lbs, Maurice Pincoffs Co
644 bgs, 64,400 lbs, Weaver & Hugi
942 bgs, 94,200 lbs, H J Baker & Bro
7,758 bgs, 775,800 lbs, Wilson & Co
5,889 bgs, 588,900 lbs, Wessel, Duval & Co
19,252 bgs, 1,925,200 lbs, Armour & Co
5,111 bgs, 511,100 lbs, Anewalt Schmitt, Inc
2,092 bgs, 209,200 lbs, Swift & Co
1,219 bgs, 121,900 lbs, Charles Hollinshed Co
8,205 bgs, 820,500 lbs, Swift & Co
LIVER—824 bgs, Anewalt Schmitt, Inc
LIVER AND GLANDULAR—5,134 bgs, Swift & Co
220 bgs, Wessel, Duval & Co
TAPIOCA FLOUR—23,399 bgs,
TUCUM KERNELS—2,500 bgs, Corn Exchange Bank & Trust Co
1,338 bgs, Continental Illinois Bank & Trust Co
WAX, BEES—1,222 bgs
297 pkgs
CARNAUBA—84 bgs, Wm M Allison & Co
400 bgs, S C Johnson & Son

—O-P-D—

Fertilizer Materials Redefined by A.O.A.C.

—Continued from page 7

Md., J. W. Sale, Washington, D. C., and W. C. Jones, Richmond, Va.

W. W. Skinner, chief of the Bureau of Agricultural and Industrial Chemistry, who has been secretary-treasurer of the association for the past twenty-one years, and who is retiring from the government upon reaching his seventieth year next March, was elected secretary-treasurer emeritus. He was presented with a Sterling silver tea set by the association in appreciation of his long service with the association with which he has been identified for fifty years.

Official final action was voted unanimously by the members to a recommendation of the committee on definitions of terms and interpretation of results on fertilizers that nitrate of soda and potash be defined as "a commercial product containing nitrates of sodium and potassium and shall contain not less than 14 percent of nitrogen (N) and 14 percent of potash (K20).

The meeting also approved a proposal of the committee that official first action be given the following recommendation on guaranteed fertilizer elements:—

All fertilizer components with the exception of potash (K20) and phosphoric acid (P205) if guaranteed shall be stated in terms of the elements.

Proposed new definitions and interpretations of fertilizer ingredients, approved on first reading, were:—

Fused tricalcium phosphate is a glassy material resultant from the quenching of substantially defluorinated fusions of rock phosphate. It shall be of such fineness that 90 percent will pass an 80-mesh screen and 85-percent of the P205 content shall be available.

Calcium metaphosphate is a glassy product which is composed chiefly of the phosphate indicated by the formula, $Ca(PO3)2$. It shall be of such fineness that 90 percent will pass a 20-mesh sieve, and its content of available P205 equivalence shall be stipulated. Example:—Calcium metaphosphate — 60 percent available P205.

Potassium metaphosphate is a product represented by the formula, KPO3. It shall be of such fineness that 90 percent will pass a 50-mesh screen, and its content of P205 and K20 equivalence shall be stipulated. Example: — Potassium metaphosphate—58 percent P205, 32 percent K20.

Ammonium nitrate is a product composed chiefly of the nitrate of ammonia. Its nitrogen content shall be stipulated. Example:—Ammonium nitrate (30 percent N).

Magnesia (magnesium oxide) is a product consisting chiefly of the oxide of magnesium. Its grade shall be stipulated. Example:—magnesia 75 percent M90.

The meeting again gave its approval to a recommendation that bags of fertilizer nitrates carry a warning "injurious to livestock."

—O-P-D—

Lederle to Operate DPC Plant

Lederle Laboratories, Inc., this city, has entered into a contract with the Defense Plant Corporation, to provide plant facilities in New York at a cost of approximately $470,000. Lederle Laboratories will operate these facilities, title remaining in Defense Plant

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Pyridines commonly enjoy various uses in the chemical industry. Some of them are now vital for production of the sulfa drugs. Like many another coal-tar chemical, for which Barrett is a key source of supply, they are needed in ever-increasing quantities for the war effort.

All Barrett's vast facilities and 89 years of manufacturing experience are being utilized to keep production of these vital chemicals at top limits. But so great are the requirements for war, we ask the indulgence of our civilian customers if deliveries are curtailed or delayed.

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XYLOL
SOLVENT NAPHTHA
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NAPHTHALENE
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DIBUTYL PHTHALATE

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CREOSOTE OIL
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(Paracoumarone-Indene Resin)
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BARDOL*
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Coaltar Chemicals

Coaltar Chemical Supplies Held Tight by Heavy War Demand —Cyclohexane and Cyclohexanone Prices Reduced

Heavy demand for war production continues to hold the majority of coaltar chemicals in short supply for civilian uses. Benzol call for synthetic rubber and aviation gasoline is gradually expanding as new manufacturing plants begin operation. The xylol-toluol mixture is taking up some of the slack in the solvent need of xylol. However, freight classification puts the price of the mixture higher than its components, and discussions are now under way to remedy the situation.

Among the intermediates and other derivatives of coaltar, active call for technical acetanilide for the production of more complex pharmaceuticals and dyestuffs is being maintained, while paranitroanilin is in somewhat easier supply. One producer of technical cyclohexane and cyclohexanone reported reductions in the price schedules of these items during the week. Consideration is being given by the War Production Board to placing enamel wire naphtha under allocation should the demand continue to mount.

Steel operations for the week beginning October 25 were scheduled at 100.6 percent of ingot capacity, according to the American Iron and Steel Institute. The rate is equivalent to a production of 1,753,400 net tons of ingots and castings. In the previous week the indicated rate was 100.7 percent, and one month earlier 100.8 percent. Production of byproduct coke during the month of September amouted to 5,342,705 net tons, according to the Bureau of Mines.

Price Changes

Advanced

None

Reduced

Cyclohexane, tech., 2½c. per lb.
Cyclohexanone, tech., 3c. per lb.

Comparative Values

Index numbers compiled from twenty typical coaltar products on the basis of 100 for August 1, 1914, compare as follows:—

Last week.	Prev. week.	Last month.	Last year.
129.2	129.2	129.2	130.1

Market news that may have developed after this report was sent to press will be found on page 4.

Basic Products

Benzol. — Market continues to be held in tight position by gradually expanding demand for high-octane gasoline, synthetic rubber and other essential production. Estimates of byproduct cokeoven operations indicate the production of benzol during the week ending October 23 to have been 3,760,000 gallons.

Coaltar.—Producing plants continue to move output to refiners and processors as available. Market tone firm. Estimates of byproduct cokeoven operations indicate the production of coaltar during the week ending October 23 to have totaled 14,677,000 gallons.

Creosote Oil.—Supplies ample. Demand continues active. Quotations unchanged. Estimates of byproduct cokeoven operations indicate the production of creosote oil during the week ending October 23 to have totaled 776,300 gallons.

Naphthalene. — Industrial grades continue to be heavily taken for war production. Demand for refined material holding up well. Prices firm. Estimates of byproduct cokeoven operations indicate the production of naphthalene during the week ending October 23 to have been 1,637,400 pounds.

Phenol. — Continues in somewhat easier supply than other primary coaltar materials. Market steady. Estimates of byproduct cokeoven operations indicate the production of phenol during the week ending October 23 to have been 218,300 pounds.

Quinoline.—Demand for manufacture of nicotinic acid sustaining steady market.

Shingle Stain Oil. — Prices steady. Call continues good in what was normally an "off-season" period.

Toluol. — Supplies remain tight. Prices firm. Estimates of byproduct cokeoven operations indicate the production of toluol during the week ending October 23 to have been 752,000 gallons.

Xylol. — Reports indicate that the toluol-xylol solvent mixture containing 75 percent xylol is taking up the slack in the market. Problem now being discussed is the railroad freight classification of the mixture which causes it to be priced at 31c. per gallon in tankcars in the New York market, compared to 27c. for the former straight industrial xylol and 28c. for 2-degree toluol. Estimates of byproduct cokeoven operations indicate the production of xylol during the week ending October 23 to have been 169,800 gallons.

Chicago, Oct. 29.—Takings of coaltar bases are extensive, and tone of the market holds strong. Offerings are strictly limited, most of the material being taken for war or related purposes. Call for benzol is active. Ruling prices exclusive of tax are:—Benzol, pure, in tankcars, freight allowed up to 2 cents per gallon, 15c. per gallon; toluol, 2-degree, same basis, 28c.; xylol, industrial, same basis, 27c.; 10-degree xylol, same basis, 30c.; solvent naphtha, same basis, 27c.; creosote oil, grade 1, 15½c.

Hydrogenated Solvents

Cyclohexane. — One manufacturer has made a change in his price schedule of cyclohexane effective as of November 1. The new schedule is 9.5c. per pound in tankcars, 10.5c. per pound in carload quantities in 55-gallon non-returnable drums, and 11c. per pound for less than carload drum quantities. The 55-gallon drum weighs approximately 350 pounds, net.

Cyclohexanone.—A change in price has been announced by one producer as of November 1. The new price schedule is 29c. per pound in tankcars, 30c. per pound in carlot quantities in 55-gallon non-returnable drums, and 30.5c. per pound for less than carlot drum quantities. The 55-gallon drum weighs approximately 425 pounds, net.

Coaltar Acids

Anthranilic.—Demand for essential production continues to hold quotations steady.

Betaoxynaphthoic. — Supplies light on active call. Market tone steady.

Benzoic, Technical. — Market maintained in firm position on sustained call for war production.

Broenner's.—Call from regular users satisfactory. Prices unchanged.

Fumaric.—Quotations unchanged on routine demand from normal consuming channels.

Maleic. — Supplies continue tight. Allocated by WPB. Market tone firm.

Malic. — Representative demand maintaining steady market.

Para-aminobenzoic.—Moving in dye and pharmaceutical manufacture in satisfactory volume. Prices steady.

Picric.—War production shipments continue heavy. Quotations firm.

Sulphanilic.—Supplies remain light. Market tone steady.

Tobias.—Demand active, sustaining steady quotations.

Other Intermediates

Acetanilide, Technical. — Shipments continue heavy into production of essential medicinals and into other intermediates subsequently important in war production. Quotations firm.

Alphanaphthol. — Demand keeping supplies light. Market tone steady.

Anilin. — War production demand, directly and indirectly continues to take material as produced. Quotations show no change.

Current prices on coaltar products are given in the alphabetical list of prices beginning on page 9.

Anthracene.—Shipments being made at active rate. Prices unchanged.

Anthraquinone. — Demand for dyestuffs remains heavy. Quotations steady.

Benzidin.—Routine demand sustaining steady market tone.

Benzoyl Chloride.—Supplies remain light. Quotations show no change.

Betanaphthol. — Current demand good. Indications that shipments in November may taper off somewhat. Prices steady.

Betanaphthylamine.—Call continues satisfactory. Quotations steady.

Dimethylanilin. — War production demand holds supplies light. Market steady.

Dinitrobenzene.—Shipments for production of essential items maintained. Prices unchanged.

Dinitrophenol.—Market steady. Supplies light on active demand.

Diphenyl. — Call continues good. Supplies light. Market tone steady.

Diphenylamine.—Production of war materials continues to take large volume. Prices unchanged.

G Salt.—Representative market sustains steady market.

Metanitroparatoluidin. — Demand continues satisfactory. Quotations show no change.

Nitrobenzene.—Essential production demands keeping supplies tight. Market firm.

Orthoanisidin. — Inquiry from routine consuming channels rather good. Prices steady.

Orthocresol.—Supplies light. Market tone firm.

Paranitroanilin. — In somewhat easier supply. Quotations unchanged.

Paraphenylenediamine. — Demand continues good. One producer recently resumed production and is filling back-logged orders. Prices firm.

Phthalic Anhydride. — Demand for essential materials continues good. Quotations steady at recently established schedule.

Xylidin.—Supplies tight as war production demand expands. Quotations firm.

Coaltar Colors

The manufacture of dyestuffs and coaltar colors continues in large volume, at the capacity permitted by the availability of basic materials. The textile industry welcomed the increase in dyestuffs permitted under the amended WPB order M-103, reported in the news columns of the previous issue. The amendment increases by one-sixth the quarterly quotas of class B, C, and D dyes, and permits the acceptance of 25 pounds of class A dyes per quarter for civilian use. Coaltar dyes imported into India during the 1942-43 fiscal year were valued at 38,263,000 rupees; in 1941-42 they totaled 47,713,000 rupees.

—O-P-D—

Washington Talks It Over

—Continued from page 5

and the big metropolitan areas. A new group is throwing its support into the fight for the bill; these are the States that have gone in for soybean production on a large scale. A look at the membership of the agricultural committee which is considering the bill shows it to be dominated by Southerners, and there is little reason to believe that the bill will not receive the committee's endorsement.

—O-P-D—

Pan-American Resources

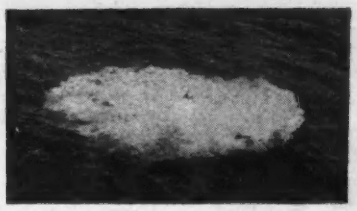
How the agricultural, mineral, and forest products of the other twenty American republics are helping to smash what is left of the axis and prepare for a better postwar world is graphically shown by a new map in color published by the Office of Inter-American Affairs.

The 20-by-26-inch map, entitled Resources for Victory—A Geo-Economic Study, offers an instantaneous picture of South and Central America's resources for peace and war, with additional information on the population density, topography, rainfall, communications, and agricultural potentialities of the other Americas.

Copies are available without charge at the OIAA and at Inter-American centers in Buffalo, Boston, Chapel Hill, N. C.; Chicago, Cleveland, Denver, Des Moines, Detroit, Fort Collins, Col., Kansas City, Los Angeles, Omaha, Philadelphia, Pittsburgh, Providence, St. Louis, and Salt Lake City.

Calco Develops Product To Aid Lost Airmen

The Calco Division of the American Cyanamid Company has developed a chemical that lights up the water of the ocean, making a huge yellow patch visible several miles away in a plane 10,000 feet in the air. Having as its base, fluorsecein a material that at one



time was used to discover leaks in water systems, the solution officially known as "dye marker" will enable searching planes to discover and rescue airmen who have been shot down in action, whether they are afloat, in life rafts or floating alone in life jackets.

The package of "dye marker" is cemented to the aviator's life jacket and has a rip flap, somewhat similar to the rip-cord of a parachute. When a flyer lands in the water, he waits until a rescue plane is within range before breaking the seal.

—O-P-D—

Cohoe Installed As S.C.I. President

—Continued from page 7

scientific achievements of Academician Bach, who is in Russia, was read by Mr. Cohoe.

The event was a continuation of the proceedings of the annual meeting of the society held in London July 9, at which Mr. Cohoe was elected president to succeed Dr. William Cullen of London, and which was adjourned to reconvene in New York city. A cable message of felicitation from the Council of the Society assembled in London and signed by Dr. Cullen was read at the dinner, at which Mr. Cohoe delivered the inaugural address, Dr. Foster D. Snell, head of Foster D. Snell, Inc., Brooklyn, and chairman of the American Section of the Society, presided.

Mr. Cohoe is the sixth American to become president of the society, which was founded in 1881 and has approximately 5,000 members throughout the world. Mr. Cohoe, who is technical adviser to corporations, principally in the fields of textiles, synthetics, paper, and cellulose, was born in Norwich, Ontario, in 1875 and has resided in New York since 1912. He was educated at McMaster University, Toronto, and at Harvard University.

—O-P-D—

Koppers Ads to Campaign Against Inflation

An advertising campaign directed against inflation, and including free factory poster distribution, will be launched shortly by the Koppers Company, Pittsburgh. The poster is illustrated and offered in single pages scheduled for magazines covering the fields of management and heavy production industry.

Under the caption, "Only folks like you and me can prevent this," the poster shows a shabbily dressed mother and small daughter standing in a snowstorm before a brightly lighted store window where shoes are displayed with the marking, "$50 Pair." The poster's bottom copy says, "The trouble is that everyone thinks it's all right to hold down the *other fellow's* wages and prices, but not his."

The only institutional feature of the offering ad is the inclusion of the Koppers tag-line, "The industry that serves all industry."

—O-P-D—

Cokeoven Tar Shipping Rate Revised by WSA

OPD Washington Bureau

A rate of one-half cent per gallon, plus a surcharge of 35 percent on transportation of crude cokeoven-tar in bulk from United States Atlantic ports to United States gulf ports in tankers of over 3,000 gross tons operated for the account of the War Shipping Administration has been approved, it was announced October 26 by the WSA. The new rate is applicable to loadings completed on and after October 22.

—O-P-D—

BUY WAR BONDS—INVEST 10% OF YOUR WEEKLY PAY

QUINOLINE

available

Grade Available—Quinoline distilling 95% within 2°C.

Properties: (Pure Compound)

Molecular Weight	129
Melting Point	—19.5°C.
Boiling Point	237.7°C.
Specific Gravity at 20°/4°C.	1.095

State: Liquid

Solubility: Soluble in alcohol, ether, carbon disulfide and most of the common organic solvents. Partially soluble in water.

Uses: Quinoline is used in the preparation of nicotinic acid, drugs, dyes and photographic sensitizers. Oxyquinoline sulfate is a well known antiseptic. Quinoline is useful as a reaction medium and as an extraction agent.

Koppers will be glad to submit samples on this and other tar bases, including 2° and denaturing pyridine; alpha, beta and gamma picolines; and lutidines, and on naphthalene, industrial pitches and other coal tar derivatives. — Koppers Company, Tar and Chemical Division, Pittsburgh, Pa.

KOPPERS

THE INDUSTRY THAT SERVES ALL INDUSTRY

OPD—11-1-1943 44

PAINT AT WAR

A REPORT TO THE NATION

1 *Paint is playing a vital part in the war effort,* protecting our ships, planes, tanks and other fighting equipment against rust and corrosion. Also for camouflage and many other war purposes.

2 *Paint is maintaining American Industrial Plants and Buildings;* furnishing better light and sight for workers and machines; and protecting the manufactured product.

3 *Paint is protecting American homes and buildings* against the elements (structures that cannot be replaced for the duration) and furnishes essential and economical upkeep for the duration, thus vitally aiding morale on the home front.

While Nos. 2 and 3 are subject to many necessary wartime limitations and restrictions imposed by the No. 1 war job, we believe it worthy of record that the Paint Industry has given a good account of itself IN ALL THREE. It will continue to do so for the duration. After this job is done, the Paint Industry will be prepared to tackle the big Post-war job — of giving America and the whole world for that matter, a fresh coat of paint to restore beauty as well as for needed protection. « « « « « « « « « «

The above report prepared and published in behalf of the Paint Industry by
THE SHERWIN-WILLIAMS CO. • CLEVELAND, OHIO

OPD—11-1-1943

National Paint, Varnish & Lacquer Association

"Convention-at-Home" Proceedings

Fifty-fifth Annual Statutory Meeting: Washington, October 27-29, 1943

Paint's past and present contribution to the war effort and the industry's opportunities and problems in peace times to come were dealt with in a comprehensive series of reports and papers issued by the National Paint, Varnish and Lacquer Association to its members on October 27 to 29 in the form of "Convention at Home" proceedings. This method of replacement for an actual meeting was adopted in 1942. Distribution of the printed record of the services of

Ernest T. Trigg
President of N.P.V.L.A.

protective coatings and the national association followed by a week the visualized story of "paint at war," displayed in Washington on October 19 to 21 and described in detail in the October 25 issue of OIL, PAINT AND DRUG REPORTER.

Gleaned from the written record of the past year and the postwar studies incorporated in the proceedings, the following points stand out:—

1. The paint industry has reason to be justly proud of its production record for military needs, achieved in the face of ever changing demands for a wide variety of coatings, of raw materials shortages and of governmental regulations and restrictions; it can be proud of its sustained service in the essential civilian market; it can be proud of its chemists and technicians for their development of new finishes and methods; it can be proud of the industry-wide cooperation which made these achievements possible.

2. Scientific developments, technical improvements, progress in the study of pigments, oils, solvents and thinners will put the industry in an excellent position to maintain and expand its markets for protective and beautifying types of coatings in the postwar period, despite the competition of what may be called "the light alloy and plastic age." Continued research and further development of knowledge gained in wartime will be essential, however, in order to keep the paint industry abreast of progress in other industries.

3. Study of merchandising methods, service practices, production and distribution problems are needed in the industry's postwar planning, if it is to avail itself of its great potentialities and fulfill its obligations and responsibilities.

Postwar Considerations

Half a dozen papers in the "Convention at Home" symposium were angled to postwar considerations. Paul G. Hoffman, president of the Studebaker Corporation and chairman of the Committee for Economic Development, urged all industries to adopt "bold plans and smart plans" now as the basis for the bold action that will be necessary when peace comes and "the desire for goods will be in the people's hearts and money to buy will be in their hands."

Outlining the organization setup of the CED, its field development and research functions, Mr. Hoffman put the ultimate attainment of postwar goals directly up to separate groups, saying:—

I have no confidence whatever in the ability of any agency—public or private—to make overall plans for our economic system, or for our business program. However, I do have the highest confidence in the ability of individual businessmen to plan for the future of their own businesses. In my opinion the initiative and resourcefulness of the individual enterprises in this country constitute one of our greatest national resources. The problem is properly to develop this great resource, to stimulate hard thinking on the part of these entrepreneurs.

Technical Developments

The possibilities of achieving the utmost in postwar technical developments were presented in a paper of suggestions prepared by Dr. H. A. Gardner, director of the scientific section, who wrote:—

We are on the eve of a period that will probably be called 'The Light Alloy and Plastic Age," and the paint industry will not be wanting when the demand comes for the desired protective and beautifying types of coatings. Although at first glance the industry might envision a postwar loss of some of its business, through the wider use of glass, ceramics, plastics, and certain light alloys, it is probable that the reverse will be true.

For instance, coatings for plastics might be developed in order to make possible highly decorative color schemes for many purposes. Moreover, the modern light metal alloys should be coated either for surface protection or decoration. In fact, many of the paint problems of the future may center around the development of coating systems for such products. Any small losses of business which may occur will be made up many times through new developments which will create a much wider market for our products.

We must change and adapt ourselves to new conditions if we expect to survive as a great industry. We must keep abreast of the advances in every other industry and with the possibilities of new developments. For instance, we know there will be tremendous amounts of butadiene and other synthetic rubber materials, and we must ask ourselves how we can use them in coatings. There are many other questions which we can contemplate:—

What effect upon our resin and varnish industry will be shown by the tremendous present plant capacity for phenol, phthalic anhydride and formaldehyde, and how can these products best be utilized?

Will alkyds be more economical than the phenolic type resins?

If alkyds grow greatly in use, what oils will be most affected, since we know that tung oil is not the most important oil if alkyds are employed?

Will the expanded production of aromatic hydrocarbons and alcohols change our present trends in formulation?

Have steps been taken to prepare for the introduction of newer oils and resins that will result from the botanical explorations now going on in Central and South America?

With the greatly expanded plantings of flax and soybeans in this country, what new products can we make from their oils?

What new products will be made from the great reserves of tung oil and shellac which may flood the world's markets when transportation is resumed?

When skilled labor is not obtainable, what new methods of application will make it possible for the householder to accomplish his painting work more readily?

Will high potential electric charges or other means be used to change the crystalline form of certain precipitated pigments and colors to increase their hiding power or improve other properties?

Could quicker drying products be made by flowing catalytically charged films of oils under ultraviolet light of controlled wave-length?

What useful film-forming materials will be produced from corn, starch, molasses, and gaseous products of the acetylene industry, to take the place of quicker drying oils?

Won't the paint industry soon be a "$1,000,000,000 annually" industry?

The above questions and a hundred other hypothetical questions should be running through the minds of busy technical men of our industry.

Many will scoff at suggestions which appear impractical. A limited few will be sufficiently interested to develop experimental evidence. Curiosity and imagination, accompanied by action, are the roots of new development. They are the fundamentals that will enable the paint industry as a whole to prosper after the war is ended. The suggestions made in the following discussion present a very feeble stirring of curiosity and imagination. Perhaps the reader can supply the action.

Exterior Paints

Dr. Gardner then analyzed the future possibilities in exterior house paints. He foresaw difficulties still to be overcome in a one-coat house paint, but said that developments in grinding and oil treatment will overcome difficulty of application and low gloss in exterior finishing coats containing a substantial percentage of bodied oil and thinner.

Modification of odors in exterior finishes, improvement in resin emulsion interior paints and expansion of highly washable oil or varnish base interior wall coating with "bland smelling thinners" were also noted in this paper.

Dr. Gardner said that the trend in industrial finishes will be toward even quicker air drying or more rapid baking systems than now employed. He explained that alkyds of a high degree of flexibility and a wide range solubility, modified with other resins, will be developed.

Varnish Formulation

In discussing varnish formulations Dr. Gardner said:—

The tendency in varnish formulation will be towards production of a varnish base which will be of a very low viscosity, so that the binding material may be as high as 80 percent with only 20 percent of volatile matter, as against 50 to 60 percent of volatile matter at the present time. They will have quick drying and good working properties, and have the advantage of tremendous savings in volatile matter which now goes out the window or up the hood.

N. W. Kelley
Elected Vice-President

Tung Oil Use

Resumption of the use of tung oil in large amounts after the war is indicated but the present replacement oils will also be continued in use. There will also be a greatly expanded employment of castor oil and oiticica. Many new developments will also take place in the pigment field, in mildewcides and in luminous paints.

On the Business Side

On the business side of paint's postwar planning, E. S. Phillips, chairman of the association's committee on this subject, made the first report for this group. He wrote:—

Your committee has had its first meeting and has carefully considered a great many suggestions presented to it by members of the association staff and committee members themselves. Some of the subjects discussed were tabled for future consideration, but definite action was taken on the following subjects, which were unanimously approved by the committee for consideration:—

1. A study be made of past merchandising practices which may not have been to the best interests of the industry—many of which have been eliminated because of the urgency of war production. Recommendations to be made by the committee wherever possible to endeavor to eliminate permanently these unsatisfactory merchandising methods.

2. The committee recommends that all local associations be urged to set up postwar committees.

3. It is recommended that the questionnaire of self analysis be sent out to local associations for their distribution to their members.

4. It is recommended that periodic bulletins be sent out by the National Association giving the members of the industry full information regarding developments of new materials in other industries which require protective coatings and also regarding materials being developed and placed on the market which tend to replace paint coatings.

5. It is recommended that a sub-committee on production and costs be set up to give full consideration to this subject.

N.P.V.L.A. Officers for 1943-44

(Elected at statutory meeting in Washington, October 28, 1943.)

President (elected in 1942 for a three-year term)—Ernest T. Trigg, Washington, D. C.

Vice-president, N. W. Kelley, president, Southern Varnish Corporation, Roanoke, Va.

Treasurer, E. A. Foy, jr., president, Foy Paint Company, Cincinnati, Ohio.

Regional vice-presidents—Central—Mitchel Goldsmith, Armstrong Paint & Varnish Works, Chicago; Eastern—A. E. Horn, A. C. Horn Company, Long Island City, N. Y.; New England—Frank Bownes, Frank Bownes Company, Chelsea, Mass.; Southern—Frank J. Sampson, Sampson Paint & Color Company, Richmond; Southwestern—Harry M. Kuhn, Kuhn Paint & Varnish Works, Houston, Texas; Western—H. S. Margetts, W. P. Fuller & Co., San Francisco.

Divisional vice-president, representing wholesale division, A. F. Winstel, Saeger-Winstel Company, Cincinnati.

Members of the executive committee (three-year term)—R. O. Clark, Jewel Paint & Varnish Company, Chicago; W. M. Clark, Muralo Company, Staten Island, N. Y.; E. D. Griffin, Pittsburgh Plate Glass Company, Pittsburgh; William H. Jarden, jr., McCloskey Varnish Company, Philadelphia; Harold Rowe, National Lead Company, New York; E. J. Shannon, Edward J. Shannon Company, Cincinnati.

...Ever since he shelved his hat for a helmet, the Paint Industry has been in the forefront of

PRODUCTION FOR VICTORY

We take pride in our Industry's accomplishments and pledge our utmost cooperation in all that it is undertaking both on the home front and in the war effort.

MURPHY VARNISH COMPANY

NEWARK SAN FRANCISCO CHICAGO

The committee is giving serious consideration to the matter of a Cooperative Advertising Campaign Postwar and the question of a thorough survey of the paint markets, all of which will be reported on later.

A great many subjects, such as "How Can Electronics Aid in the Production of Paint and Varnish," and "How Can We Improve Our Pattern of Distribution and Lower Our Cost of Distribution" were discussed by the committee, who felt that these were subjects that should receive careful study by subcommittees appointed by the president of the association for this purpose. The conclusions reached by these studies to be carefully reviewed by the postwar planning committee, and then presented to the executive committee and the local clubs for final action.

Cooperation by the paint industry with other industries on postwar planning, and the work now being done by the Committee for Economic Development, headed by Paul Hoffman, was also discussed and it was decided that we should keep in touch with the work being done in the construction industry, the automotive and refrigerator industries, and the railroads, as well as the national effort now being sponsored by the Committee for Economic Development, and President Trigg was requested to detail a member of the headquarters staff to carry on this work in conjunction with this committee.

Industrial Finishes

Postwar thoughts on the industrial finishes field were contributed by Paul S. Kennedy, chairman of the National Industrial Finishes Committee, who declared that the protective coatings achievements put the industry "in the top circles of the streamline adaptations to modern warfare." Nevertheless, he pointed out, there are corrections and adjustments in practices which must be made after the war. He said:—

One of the necessary but insidious evils of these war days has been the widespread imposition of specifications into the thoughts, minds, and practices of our industry. Specifications have, in some instances, given to some an erroneous idea as to their qualifications for future participation in industrial business, because of the familiarity they have acquired in supplying certain of these "set formulas."

Because of these same "set formulas" merchandising practices have developed which, while quite condolable under the volume conditions of war supply, would be destructive, and even suicidal to our industry under normal operation.

One of the first postwar accomplishments should be the dissolution of this specification complex; and a return to the attitude that any specifications will have to do entirely with the physical performance desired by a consumer, and a complete elimination of anything which would deprive the minds and hands of the protective coating manufacturer of his inspiration and ingenuity.

Protective Coatings

"Protective Coatings in the Year Ahead" was the subject of a paper by T. J. Craig, chief of the Protective Coatings Section of WPB, who foresaw the probability of a reasonably good industry year in 1944, but with manpower and material shortages in some cases more severe than heretofore.

N. W. Kelley, newly elected association vice-president, in a paper entitled "When Johnny Comes Marching Home," asserted that planning now for new high levels of employment is essential if the returning fighter is to find a better America.

Chemicals Used by Industry

Technical papers were absent from the "Convention at Home" proceedings, but under the title of "Chemicals and the Paint Industry," J. W. Raynolds, deputy director of the Chemicals Division of WPB, gave a comprehensive picture of the raw materials requirements in World War II as contrasted with World War I, with major requirements now calling for synthetic resins, which in turn call for new types of chemical solvents and chemical plasticizers. Mr. Raynolds wrote:

The intermediate chemicals required for any specific resin, solvent, or plasticizer are known in a general way to chemists specializing in the paint field. However, this knowledge usually does not extend back to the basic chemicals required to make the intermediates from which the final resin, solvent, or plasticizer is produced. It is this phase of the chemical requirements of the paint industry which is really complex and becomes of great significance at this time.

Of foremost importance are the synthetic resins which have come into wide usage because of their many desirable properties. There are several groups in which these resins may be classed for convenience. The first group are the cellulose compounds used for lacquers, many specialty finishes and for plastics.

Nitrocellulose

Nitrocellulose calls for nitric and sulphuric acids which, in turn, must be made from ammonia and sulphur respectively. Cellulose acetate is made by reacting cellulose and either acetic anhydride or acetic acid. These two chemicals may be produced by various methods.

Acetic Anhydride

Four principal methods are currently used for producing acetic anhydride:—(1) Ethyl alcohol is converted to acetaldehyde and thence to acetic anhydride and acetic acid. (2) Isopropyl alcohol is converted to acetone, then to ketene which is combined with acetic acid to form acetic anhydride. (3) Acetylene is converted to acetic acid and thence to acetic anhydride. (4) Acetic acid will yield acetic anhydride on pyrolysis.

Acetic Acid

Acetic acid is currently produced by five processes:—(1) Ethyl alcohol is oxidized to form acetaldehyde which is converted to acetic acid. (2) Acetylene is converted to acetaldehyde which, in turn, is converted to acetic acid. (3) Butane is converted to acetaldehyde which, in turn, is converted to acetic acid. (4) Methanol is converted to formaldehyde which can be converted to acetic acid. (5) The destructive distillation of wood, which was the early process for producing acetic acid and which now accounts for about 5 per cent of our total production.

Ethyl Cellulose

Ethyl cellulose is made by reacting alkali cellulose and ethyl chloride. Hydrochloric acid and ethylene, or ethyl alcohol, are reacted to form ethyl chloride. Ethylene gas is produced by fractionation of natural gas or as a by-product in petroleum refining.

Cellulose Acetate Butyrate

Cellulose acetate butyrate, in addition to acetic acid, requires butyric acid which is made by the oxidation of butyl alcohol which, in turn, is produced either synthetically from ethyl alcohol or directly by the fermentation of grain.

Thus, we find that to produce these cellulose compounds, we will require the following chemicals:—coal, limestone, salt and sulphur as basic or elemental materials. Acetylene, acetaldehyde, acetic acid, acetic anhydride, ammonia, butane, butyl alcohol, butyric acid, calcium carbide, caustic soda, chlorine, hydrochloric acid, ethyl alcohol, ethylene, ethyl chloride, formaldehyde, ketene, nitric acid, and sulphuric acid are required as intermediate chemicals. The basic materials do not present any special problem. The intermediates, however, are all in great demand for a wide variety of other very important end uses. In every case, chemical industry has been called on for a substantial increase in production.

Phenolic Resins

A second and important group of resins are the condensation polymers. Phenolic resins are made by condensing phenol and formaldehyde. Some phenol is produced as a by-product of coaltar. However, by far the largest percentage of our current supply of phenol is made synthetically. There are two principal synthetic processes:—(1) The fusion of sodium benzene sulphonate with caustic soda. (2) Pressure reaction of monochlorbenzene and caustic soda.

Formaldehyde

Formaldehyde is produced primarily by the oxidation of methanol or methyl alcohol which is produced by three standard processes:—(1) Wood distillation. (2) Catalytic synthesis from water gas. (3) Oxidation of various lower saturated hydrocarbons, such as propane and butane.

Thus, in the production of phenolic resins, we must have an adequate supply of the following intermediate chemicals:—benzene (benzol), formaldehyde, chlorine, caustic soda, methanol, phenol, and sulphuric acid.

Urea Resins

The urea resins are made by condensing urea with formaldehyde. Urea is made from ammonia and carbon dioxide. The use of urea resins must therefore be evaluated in terms of the demand for ammonia as well as the demand on formaldehyde for other uses, including phenolic resins. In this connection, it is interesting to note that urea and phenolic resins currently consume about 60 percent of the total formaldehyde production. Protective coatings and adhesives use over 30 percent of these resins, while plastics consume the balance.

Alkyd Resins

The alkyd resins are very important for protective coatings for a wide variety of end use, both military and civilian. The glycerol-phthalate type resins are the best known in this class. For their production, we require large tonnages of naphthalene, a coaltar by-product which is oxidized to produce phthalic anhydride. Glycerine is reacted with phthalic anhydride to make the glycerolphthalate which, in turn, is modified with various drying oils to produce resins of widely different hysical characteristics.

Vinyl Resins

The vinyl resins constitute a third important group. They can be manufactured or compounded for varying degrees of flexibility and resistance. As

a result, they have been widely used to replace rubber in coated fabrics, insulation and similar specialties. The chemical raw materials required for this group include acetic acid, acetic anhydride, acetone, acetylene, benzol, calcium carbide, caustic soda, chlorine, chlorohydrin, cyanamide, ethylene, ethylene dichloride, ethylene oxide, isobutane, isobutylene, methanol, sodium, sodium cyanide, and vinyl alcohol.

Specialized Types

In addition to the above groups of resins, there are several specialized types which have become extremely important in the protective coatings industry. These specialties include ester gum, alkyd or phenolic types containing pentaerythritol or glycols, substituted phenolic resins, paraphenyl phenol resins, coumarone-indene resins, pinene resins, and chlorinated rubber. The raw materials required for this group of specialties are:—rubber, rosin, chlorine, glycerine, phenol, pentaerythritol, turpentine, coaltar distillates, maleic anhydride, benzol, sulphuric acid, and caustic soda.

Plasticizers

In general, the synthetic resins require plasticizers or softeners to modify their characteristics to meet particular requirements. Among the better known chemical plasticizers are tricresyl and triphenyl phosphate. The various chemicals required in their production include coaltar, benzol, cresylic acid, phenol, phosphorus, chlorine, phosphorus oxychloride, phosphorus pentoxide, and caustic soda.

Phthalates

Another well-known and widely-used group are the phthalates. In this group, we have diethyl, dimethyl, dibutyl, diamyl, dicapryl, and dioctyl phthalates. These are commonly called the alcohol or alkyl phthalates. The ether-alcohol esters are also important and include dimethyl and dibutyl cellosolve phthalates.

The chemicals required for the production of these various plasticizers include naphthalene, which is converted to phthalic anhydride. Various alcohols, such as ethyl, methyl or butyl, etc., are reacted with phthalic anhydride to make the esters, i.e., dibutyl phthalate, etc.

Chemical Solvents

The use of synthetic resins has created a tremendous demand for new chemical solvents. Many of the synthetic resins are insoluble in ethyl alcohol, petroleum solvents, or turpentine, the old-time standby of the paint industry. In general, each class of synthetic resin will yield the best results in some special class of solvent.

Alcohols

The alcohols of most importance are methyl, ethyl, butyl, isopropyl and amyl. The carbinols are another group of alcohols which are of considerable interest. Cellosolve and carbitol are ether-alcohols and very useful as "high boiling" or slow evaporating solvents necessary in a wide variety of applications.

Ketones

The ketones are another group of especial significance. Acetone, methyl ethyl ketone, cyclohexanone, methyl isobutyl ketone and isophorone are the principal solvents in general use.

Ester Solvents

The ester solvents are indispensable in many types of formulation. Among the more important esters are ethyl acetate, isopropyl acetate, pentacetate, normal butyl acetates, secondary butyl acetate and amyl acetate.

There are many chemicals required in the production of these solvents. The petroleum fractions, ethylene, butylene, and propylene, are the starting materials for the synthesis of the ketones, the alcohols and the ether-alcohols. Other raw materials include ethylene oxide, chlorohydrin, sulphuric acid, caustic soda, and chlorine.

Acetate Esters

The acetate esters are made by reaction of an alcohol and acetic acid. The production of the various alcohols has been discussed briefly above. Likewise, the production of acetic acid has been discussed in considerable detail. Naturally, the various raw materials are required in an amount sufficient to produce the necessary alcohols and the necessary acetic acid to make these esters.

Pigments

In the pigment field, we now require large quantities of chrome oxide, lithol red, cuprous oxide, snythetic yellow iron oxide, phthalocyanine blue, toluidine toner, titanium dioxide, and zinc chromate. These are all relatively new pigments that have come into wide use since the last war. Among the chemicals required in their production are sulphur, sulphuric acid, naphthalene, betanaphthol, chlorine, urea, phthalic anhydride, soda dichromate, toluene and nitric acid.

Paint at War

Ernest T. Trigg, president of the association, gave the overall review of the year in a paper entitled "Paint at War," to which he attached a memorandum on the war service of the organization. The specific wartime uses of the industry products furnished to the armed forces and other government war agencies have been summarized in an illustrated brochure entitled "Paint at War," which has been separately distributed to the membership.

Mr. Trigg, after recounting the manner in which American business and business men had swung over to meet controls needed in a war emergency, told of the manner in which the association at national headquarters, working under the direction of the executive committee and working with a war advisory committee, appointed by the executive committee, has been constantly cooperating with the government on all of the various matters having to do with all branches of the industry.

Priorities to Allocations

George H. Priest, priorities consultant for the association, reviewed the trend of industry control from priorities to allocations, from the Defense Supplies Rating Plan to the Production Requirements Plan and the Controlled Materials Plan. In discussing the situation today, Mr. Priest wrote:—

The trend toward allocation has been accompanied by gradual recognition of the fact that when a material is so scarce that its use can be authorized only for specific purposes for which there is no satisfactory substitute available, it is the end use of the material and not the preference rating which might otherwise be applied, which must govern allocation. Over a period of time the Protective Coatings Section of the War Production Board accumulated a list of about 18,000 end uses which were reported by applicants for raw materials under orders administered by the Protective Coatings Section. In some cases it was found that one manufacturer would obtain material for the identical purpose for which it was denied another and investigation revealed that it was because of the manner in which the information was presented. Accordingly, in order to assist both applicants and allocators in reducing all requests for materials to a common language, the Protective Coatings Section compiled the official End Use List of about 375 items with which you are now familiar.

Further, it is hoped that after there has been a sufficient experience gained, it may be possible to authorize the consumption of materials for certain specific end uses in advance, permitting a degree of flexibility and interchangeability which is not now possible, and to maintain control by means of reports of consumption for such permitted uses made after the fact.

Fats and Oils

C. T. Prindeville, chief of the Fats and Oils Branch, Food Distribution Administration, outlined the present supply and crop situation of fats and oils with regard to the paint and varnish industry, with figures on the crop year from October, 1943, to September, 1944, and then gave a picture of future prospects and needs. He said:—

In addition to linseed oil, other oils will be available to the paint and varnish trade, probably to the extent of 15 percent of its requirements. FDO-60 permits paint and varnish manufacturers to use fish oil at the rate of 40 percent of their use in 1940-41, which will amount to 15,000,000 pounds per year. Castor oil is available without allocation during the fourth quarter of 1943, and it is expected 15 million pounds will be used during this quarter by the industry.

In order to build up our total domestic stocks of fats and oils to a normal pre-war relationship to domestic and export requirements of 12,000,000,000 tember.
000,000 pounds will be needed. This will mean stocks of around 2,800,000,000 in the Spring and somewhat less at the low period between crops next September. [illegible]

Civilian Painting

The need for maintaining supplies for essential civilian painting on "The Home Front," was outlined in a paper of that title by Thurlow J. Campbell, chairman of the national trade sales committee.

M. Rea Paul, now attached to the Smaller War Plants Corporation, told of the study now in progress to develop plans for the most effective utilization of the individual productive capacities of the paint industry's smaller plants.

Annual reports of all of the standing committees were also mailed to the membership as part of the "Convention at Home" proceedings.

—O-P-D—

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SELECT "FINES"—	**Equal to Super Selects, except for size of pieces.**
GILSONITE SELECTS—	**Various melting points. 285—300—315°F.**
REFINED GILSONITE SELECTS—	**"Tailor-Made" The Ultimate in Quality, Uniformity, M. P., Viscosity. 100% Clean. We can make this to any melting point desired from 270° to 320°F.**
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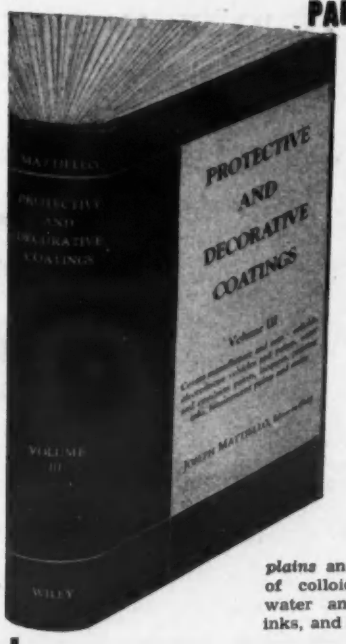

Now Ready Vol. III

PROTECTIVE and DECORATIVE COATINGS

Edited by Joseph J. Mattiello

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Federation of Paint and Varnish Production Clubs

Third Technical Symposium

Cleveland, Ohio, October 22-23, 1943

A particularly useful lot of information on present problems in the protective coatings industry and a number of helpful guides to postwar situations in its field characterized the third technical symposium of the Federation of Paint and Varnish Production Clubs, which occupied about fifteen solid hours of work in Cleveland, Ohio, October 22 and 23. The paint technicians also put in about four additional hours in business sessions of the federation and its advisory committee. Several hours still beyond that were taken up by meetings of the executive and other committees. The short period was a busy one.

John J. Bradley, Jr.
F.P.V.P.C. Symposium Chairman

In its routine business session the federation amended its by-laws so as to convert contributing honorary membership to federation honorary membership and what has been honorary membership to club honorary membership. The first class will be limited to those who have legally been elected as contributing honorary members or may in the future be approved by the advisory committee. This membership will be free from dues and fees for federation publications.

The federation voted to invest approximately $10,000 from its educational fund in war bonds.

Technical Symposium

The technical symposium comprised eight papers by affiliated local clubs, two specific reports from the technical advisory committee, a report of progress in the Case school scholarship, two discussions of needs of the armed services, five outlinings of postwar expectations in materials, and one prophecy of a gratifying future for the industry.

The paper by the Chicago Paint and Varnish Production Club, "A Study of Some Newer Oils," was awarded the *American Paint Journal* prize.

The symposium was under the direction of John J. Bradley, jr., Boston, chairman of the program committee, who outlined some of the work done by the technical advisory committee in the past few years on war problems and pointed out that much more would have to be done before the war is won and postwar economic readjustments have been accomplished. Mr. Bradley asked that there be no policy of "silent discussion" in the symposium but that questions be asked and criticisms given freely and frankly.

In the absence of Walter F. Kuster, president of the federation, Dr. Joseph J. Mattiello, vice-president, expressed the appreciation of the official family for the work of preparing the symposium. Winning the war demands full energy now, he said, but the future must be given much thought. He advised a gradual turning by local committees to the technical trends of the industry, declaring that the technical man is the industry's right arm.

Measuring Dry Hiding Power

New York Club

A survey of the methods for determining the dry hiding power of paints was launched by the New York Paint and Varnish Production Club under its subcommittee No. 40, headed by A. C. Haber, the objective being the determination of an absolute method, reproducible in different laboratories. The report was presented by Carlton Rose.

Mechanical methods were preferred to hand brushouts for the forming of paint films, for accuracy and simplicity. Photometric determination on flat wall paints was considered practicable. The investigators, defining dry hiding power as the ability of a paint "to reduce the contrast of a black and white surface to which it is applied and allowed to dry, outlined a general method comprising the following:—

Apparatus

(a) Test surface. A smooth-surfaced paper chart having adjacent black and white areas and coated with a suitable varnish or lacquer so as to render the surface impervious and resistant to paint liquids. A rigid flat surface such as plate glass to which the paper chart is firmly fastened while the paint film is prepared.

(b) Spreading device. A suitable mechanical device for spreading paint films of controlled thickness. Doctor blades such as the Bird paint film applicator, or the inclined plane automatic doctor blade are suitable or an off center paint film spinner may be used.

(c) Reflectometer. The reflectometer must be so designed that only diffusely reflected light is measured and the combination of light source, filters and receiver must approach the luminosity function of the I.C.I. standard observer in combination with illuminant C.

Procedure

The paper chart is trimmed to a suitable length with the width slightly greater than the width of the paint film spreader. The chart is firmly fastened against a flat, rigid surface and a reasonable sized spot of paint (the sample of paint must be thoroughly stirred) is placed on the paper surface in front of the spreader. The spreader is held down with even pressure and drawn across the panel, regulating the speed so that the paint flows out evenly to deposit a uniform film over the entire distance between the spacers. At least three panels should be prepared to have film thicknesses slightly above and below the specified endpoint.* The panels thus prepared are allowed to dry.

Carlton H. Rose
New Chairman on Programs

After drying, measure the apparent daylight reflectance of both black and white portions of the chart, taking at least three measurements over each portion. Calculate the contrast ratio of average-apparent - daylight - reflectance-over-black and average-apparent-daylight-reflectance-over-white. To be on grade, the contrast ratio must be equal to or greater than the specified value at the specified film thickness.

Weigh the paper chart and after the paint film has been applied and allowed to dry, trim the chart to select the maximum uniform area of paint film, and reweigh. From the area selected and the original area and weight of the paper chart, calculate the weight of the chart under the selected film area and subtract from the total to find the weight of dry paint. To obtain a factor converting the weight of dry paint to the weight of wet paint, weigh a pair of glass panels about six inches square together, sandwich about two grams of paint between them and reweigh to get the weight of wet paint. Separate the panels by sliding them apart. Dry the two films along with the hiding power panels then weigh and calculate the factors for converting the dry film to wet film weight. From the weight of wet film, the specific gravity of the paint and the area covered, compute the volume or thickness of the wet film. In the case of spun films, this operation must be carried out for each paint tested.

Introduction

Although there are a number of experimental devices used for the determination of the hiding power of paints, only two procedures for the

* While most paint film spreaders deposite thinner films than the machined clearance, once the actual film thickness obtained with any spreader is accurately determined, that thickness can usually be reproduced over a considerable range of paints by any one operator. For the highest accuracy, the following film thickness determination should be made on each panel tested but if the paints to be tested are similar and only one operator is involved, the film thickness determination need be made less frequently. Experience will show how often this must be done.

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The New President

Dr. Joseph J. Mattiello, the new president of the Federation of Paint and Varnish Production Clubs, is a vice-president of the Hilo Varnish Corporation, Brooklyn, N. Y., and has been its technical director and industrial sales manager for five years. His association with the protective coatings industry began September 28, 1925—with the Hilo corporation.

Dr. Joseph J. Mattiello
New President F.P.V.P.C.

Dr. Mattiello was born in New York February 28, 1900, son of Celestino and Elizabeth (Bottiglieri) Mattiello. Upon completion of his common schooling, he matriculated in the Brooklyn Polytechnic Institute, and he was graduated by that institution in 1925 as a bachelor of science in chemistry. He returned to "Polly" several years later and got his M.S. degree in chemistry in 1931. His Ph.D. degree was obtained from Columbia University in 1936.

In his seventeenth year, Joe Mattiello was a private in a New York National Guard regiment in service on the Mexican border. A bit later he was in the 165th United States Infantry, and as a sergeant he was with the A.E.F. Rainbow Division in France from 1917 to 1919. He got a regimental citation in 1918 and was decorated with the Order of the Purple Heart.

Dr. Mattiello became a chemist for the Hilo Varnish Corporation in 1926. Three years later he was given charge of the varnish laboratory, and in 1932 he became chief chemist. Four years later he was made technical director for the corporation and to this he added the sales managership in 1937. He has been one of the most active figures in the technical affairs of the protective coatings industry. He has contributed much to its literature, especially on oils, and he is editor-in-chief of the gigantic four-volume work, "Protective and Decorative Coatings." Dr. Mattiello and his collaborators in this work have established a fellowship in his name in the department of chemistry of the Brooklyn Polytechnic Institute with funds from their royalties. He is a member of the Roman Catholic Church, of the Chemists' Club of New York, and of Alpha Phi Dela, Phi Lambda Upsilon, Delta Kappa Pi, and Sigma Xi fraternities. Also, he is permanent most high gallows bird of the Society of Gallows Birds (otherwise those who construct paint specifications), and he collects stamps and books.

Dr. Mattiello and Josephine Critelli were married September 18, 1922. They have four daughters, Margaret Ann, Elizabeth, Rosamond, and Barbara Ann. The family home is at 536a Fifth street, Brooklyn, N. Y.

determination of the dry hiding power of paints have been accepted by the American Society for Testing Materials or used in Federal specifications. One of these is the ASTM test for the dry hiding power of paints D-344-39 (1), while the other is described in Federal specifications TT-P-23A (4) and TT-P-88 (6).

The ASTM method determines whether the relative dry hiding power of a given paint is less than, equal to, or greater than that of a mutually agreed upon standard. An optional procedure is included which permits a quantitative determination of the relative dry hiding powers of paints which do not differ greatly in this respect. The qualitative method is based on the visual comparison of the contrast of brushouts of samples and standard paints at the same spreading rates. While this method is simple and reproducible in different laboratories, the need for a standard paint appears to have kept it from general use.

The Federal specifications for the dry hiding power of water-thinned paints TT-P-23A and TT-P-88 require that brushouts of the paints at definite spreading rates on black and white paper charts yield a specified contrast ration. It was thought that this type of test might be applied to the determination of the dry hiding power of flat wall paints and the reproducibility to be expected from such a test was first considered.

Conclusions from First Two Tests

From the following experimental facts, it is concluded that the failure to obtain concordant results in the hiding power tests in different laboratories was due to poor reproducibility in preparation of the panels by hand brushing:—

1. A large variation existed in the contrast ratio and in reflectance over the black portions of single hand brushed charts.

2. When the results were calculated to relative hiding power in terms of one of the paints as standard good agreement was obtained among the cooperators.

3. By the exchange of painted panels and reflectance measurements on ceramic tiles, the cooperators were shown to be in good agreement in their reflectance measurements. Since the panel preparation was the only other experimental operation involved in the test, it must have been the cause of the poor correlation.

Discussion of Final Results

In the first two series of tests in which the films were prepared by hand brushing the paints on to paper charts of one square foot area the reproducibility of the hiding power determination in a number of different laboratories was very poor. Each laboratory rated a given series of paints in the same relative order of hiding power and with about the same relative differences in hiding power between the different paints. The absolute values, however, showed little concordance. Comparative photometric data obtained by the cooperators through the measurement of the reflectance of ceramic tiles and by exchange of panels indicated that the lack of correspondence was not the fault of the photometric measurements. The trouble was ascribed to lack of reproducibility in hand brushouts at incomplete hiding since the relative hiding power of the paints in relation to one of the paints taken as a standard showed good correlation in the different laboratories.

When the hand brushouts were replaced by mechanical methods of forming the films in test series 3, 4, and 5, the reproducibility among the cooperators showed an immediate improvement. These tests have covered a wide range of consistency, hiding power characteristics, and color, in flat wall type paints and the agreement in different laboratories has been generally satisfactory. The various cooperating laboratories have used the Bird paint film applicator, other types of blade spreaders, the inclined plane automatic doctor blade and the off-center spinning film method to produce the films.

The agreement between these various devices has been good, but for accurate results an independent determination of the film thickness is necessary with all of them. The finding that the mechanical methods of forming films result in better uniformity than had brushouts is in agreement with former work of the New York Club (7), although the present work shows no preference for the Inclined Plane Automatic Doctor Blade over the Bird Film Applicator.

As a result of the experimental work, it is concluded that the photometric measurements are more sensitive, accurate, and reproducible than the determination of film thickness in hiding power tests. Therefore, the endpoint should be located fairly well up on the contrast ratio film thickness curve to decrease the importance of small variations in film thickness. For flat wall paints, it is recommended that specification tests be based on a mechanical film spreading device with independent determination of the film thickness. For oleoresinous white flat wall paints, the film thickness endpoint should be in the neighborhood of 0.000" corresponding to a spreading rate of approximately 7 ml. per square foot or 535 square feet per gallon. The general method may be applicable to light tints and colors, but more work would be required to establish this point.

House Paints and Climatic Variations

Pittsburgh Club

In conclusion of work reported in 1941, the Pittsburgh Paint and Varnish Production Club presented correlated data on four typical house paints and three exterior enamels after three years' exposure in Los Angeles, Hialeah, Fla.; Pittsburgh, Chicago, Tucson, Ariz.; Chelsea, Mass.; New Kensington, Pa., and Mobile.

The house paints were linseed oil mixtures—(1) lead, zinc, and titanium; (2) lead, zinc, and fibrous talc; (3 and 4) lithopone, zinc, and leaded zinc. The enamels were (1) phenolic, (2) alkyd, and (3) oleoresinous, pigmented with titanium, zinc, and lampblack.

The report of findings was as follows:—

Observation

From the initial observation taken after eight months exposure, all the panels appeared to react to the climatic condition fairly close with the Florida exposure, in general, showing fairly quick breakdown such as chalking, cracking and checking, while in all other locations this type of breakdown was slight.

After three years' exposure the panels were recalled and the committee evaluated them on the basis of the rate of failure of the same formulation in the different location rather than on the merits of the different formulations in any one location.

Results

No. 1 House Paint.—All exposures showed moderate chalking; Mobile and Florida showing heavy chalking and Mobile also showing some checking.

No. 2 House Paint.—This paint showed moderate chalking on all panels, with chalking supressing the checking on the Los Angeles panel. Panels from Tucson, Mobile and Florida showed definite signs of failure, with shrinking and cracking at the clapboard joints. Alligatoring was prevalent on the Florida and Mobile exposures.

No. 3 House Paint.—These exposures showed slight shrinkage at the joints in all the panels, together with very bad erosion. Checking appeared slight on the Florida, Pittsburgh, Chelsea and Mobile panels.

No. 4 House Paint.—This is No. 3 house paint tinted to a medium gray with lampblack. All panels were free from checking and cracking, but showed moderate erosion except Florida and Mobile, which reveal heavy erosion. This complete set is in excellent condition for repainting.

No. 1 Enamel.—This enamel showed equal fading and chalking. Florida and Chicago exhibited slight rust spots with Chicago showing to be the poorest.

No. 2 Enamel.—These panels chalked and faded in every case with New Kensington showing the least and Tucson the most. All panels were in good condition for repainting.

No. 3 Enamel.—As No. 2 enamel, fading and chalking were in evidence on all panels.

Conclusions

1. The higher temperature of the southern parts of United States accelerated chalking.

2. The combination of high temperature and high humidity hastened cracking and checking.

3. The tint on No. 3 house paint showed definite improvements to No. 3 paint.

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The absence of mildewing in the Southern tests was explained by the fact that the panels were laboratory dried before being sent to the exposure localities; mildewing is characteristic of freshly painted surfaces. The selection of three-coat painting and two-coat enameling was wholly arbitrary. No definite stand had been taken on the desirability of different paints for different sections of the country. Data on average humidity were not collected.

Protection Against Pigment Fading

Pittsburgh Club

A study of the prevention of fading by means of differences in paint types was reported by the Pittsburgh Paint and Varnish Production Club. The study was based on the postulate that fading of pigments is retarded or prevented by the use of various, superimposed clear coatings or by a durable vehicle.

The experiments, conducted with films of (1) medium oil-length alkyd varnish, (2) 12½-gallon 100 percent phenolic chinawood oil varnish, (3) TTV-121-a spar varnish, (4) boiled linseed oil, (5) gloss oil. The results were told as follows:—

A high-grade light-blue architectural enamel was made by grinding titanium dioxide and peacock blue in a nonyellowing alkyd resin solution. Similarly, a light-blue baking enamel was made with an alkyd urea-formaldehyde vehicle. Panels were coated with these two types of enamels:—the alkyd type enamel air dried, the urea formaldehyde enamel baked thirty minutes at 300° F. There was no change in color due to heat.

Observation

Examination of the panels showed no difference in the relative fading of the "protected and unprotected" sections of the panels. This was true in both the one-coat and two-coat systems of various clear films. Pronounced fading was evident, however, when compared to the shielded part of the panel. The alkyd and urea formaldehyde enamels showed equivalent fading. Arc and sunlight exposures gave the same degree of fading.

Conclusions

1. Superimposed varnish films offer very little or no protection against fading of fugitive pigments.
2. The use of durable vehicles offer little or no protection against fading.
3. If freedom from fading is desired, the pigment and not the vehicle is the controlling factor.

Sealing Knots Under House Paint

Western New York Club

New work on the house-painter's old problem of hiding knots was reported by the Western New York Paint and Varnish Production Club. Shellac sealers were tried out in comparison with other types believed to offer better elasticity. The search was for a sealer which not only would prevent bleeding of the resinous knot-exudation into the paint film, but also would have no deleterious effect on the superimposed film.

What was learned was told thus:—

1. Shellac plasticized with 6 liquid ounces of blown castor oil to the gallon proved to be the most effective sealer tested. Its sealing properties were equal to those of the unmodified shellac, and the paint film applied over it was the most durable in the test.
2. Shellac modified with water-ground mica, aluminum powder, and metalead offered no improvement over shellac itself. The sealing and the effect on the weathered paint film were approximately the same for all three pigmented sealers tested.
3. The phenol-formaldehyde molding resin had good sealing properties. The dark color of the resin was still visible, however, after the application of two coats of paint.
4. The application of aluminum paint directly to the knots showed slight staining upon exposure.
5. The poor appearance and cost of application of the masking tapes, in addition to ineffective sealing, make such methods impractical.
6. The control panel with no sealer showed the most failure of the paint film over the knots.
7. Priming the wood prior to sealing the knots improved slightly the durability of the house paint. This slight improvement was offset, however, by the practical disadvantage of poor visibility of the knots for the touch-up sealing before applying the finish coat of paint. Also, the sealed areas were visible through the finish coat, especially as the film eroded upon weathering.

In closing it can be said that the industry's best interests are served by holding fast to the long-established principle that lumber of select grade, which is free of knots, should always be used where it is required that the paint coatings maintain a good appearance. When it is necessary, however, to cope with knots in lumber, the procedure outlined should be helpful in improving the job's appearance. No doubt the most practical solution of the problem would be the modification of house paint primers in such a way as to improve the serviceability over knotty lumber. Although at present this idea is not very promising technically, it may have some merit in the future.

The back-priming of the test panels may have helped to minimize bleeding, as the effect of moisture was checked, but the evidence did not support such a conclusion. The castor oil did not appreciably retard the drying of the shellac.

Kenneth J. Howe
Chairman on Scholarships

Fire-Retardant Paints For Steel Surfaces

New York Club

To the man in the street the bending off of fire from steel by means of paint would seem to be an illogical pursuit. But, the navy has good use for fire-retardant coatings on steel surfaces. The New York Paint and Varnish Production Club set out a year ago to help the navy get a better coating of this type.

Subcommittee No. 45, of the club, headed by Laszlo Auer, did a big job toward the bettering of specification 52P22, starting last January on investigations of (1) silicate paints, (2) chlorinated coatings, (3) organic solvent type paints, and (4) emulsion paints, especially the last. It piled up a wealth of data and it made a comprehensive report on what it had done.

Here are the salient spots of that report, presented by Kenneth J. Howe.

Requirements of Paint

Fire-retardant paints should comply with the following requirements:—

(a) Applied on steel surface and exposed to fire on the reverse side, the paint film should not catch fire.

(b) The fumes given off should be substantially non-toxic, and should not flash.

(c) The paint, during exposure to the heat of flames on the reverse side of the metal, should adhere to the steel surface and should not flake off.

(d) This performance should be obtained over an anti-corrosive primer.

(e) The paint should show a reason-

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able degree of flexibility and should not easily chip off during use.

(f) For interior surfaces of ships, the paint should be resistant to washing with salt water soap and salt water, should be resistant to high humidity and have high light reflectance.

(g) A further desirable property would be non-inflammability of the paint as furnished and during application.

Results of Tests

Attention is drawn to the following results which were obtained in these tests using the five different primers:—

(1) A 25-gallon linseed oil-ester gum type vehicle proved to be a satisfactory vehicle for emulsion type fire-retardant paints.

(2) No paint performed satisfactorily over the zinc chromate primer of navy specification 52P18.

(3) Of the primers tested, No. 4 behaved very satisfactorily, followed by No. 5 and No. 3. Primers No. 1 and No. 2 did not give satisfactory results. All of the primers had almost the same P. V. being very close to 40.

(4) The 52P22 type paint, used in our investigations as control, did not behave satisfactorily over any of the five primers tested.

(5) The emulsion paints behaved better than the controls of the mineral spirits type, used.

(6) With regard to appearance after the flame test, 57 percent-P.V. and 70 percent-P.V. are satisfactory.

These tests have brought out the importance of using with fire-retardant finish paints such primers which are also fire-retardant.

The tests have also shown that it is possible to formulate emulsion paints with satisfactory adhesion performance after the flame tests but that a satisfactory vehicle has to be selected and the emulsion paint, like other fire-retardant paints must be used over fire-retardant primers.

Preventing Rust Spots

There are many requirements which an anti-rust-spotting agent should satisfy. Below are given a few of such requirements:—

(1) Should not discolor white paints (chromium compounds, for example, are excluded for this reason).

(2) Should not form an iron compound with a strong tinting power.

(3) Should be stable in the pH of the emulsion.

(4) Should not affect the stability of the emulsion.

(5) Should be soluble in the water phase of the emulsion.

(6) Should not affect adversely washability of the dry film.

(7) Should not be toxic (in the concentration used).

(8) Should not influence adversely color retention of the films.

(9) Its cost should be low.

Two kinds of discoloration were observed. In one instance the film is uniformly discolored, for example, with monoethanolamine. It is supposed that in such an event the rust-spotting inhibitor acts on the vehicle solids, causing uniform discoloration. In the other instance, the discoloration occurs in large blotches. As this discoloration looks different from rust-spotting, it is suggested that it may be caused by a reaction between the rust-spotting inhibitor and the iron of the panel.

If films, showing strong rust-spotting, are removed from the panels, there appear etched spots on the same places, where rust-spotting was observed earlier.

In the case of 1 percent sodium nitrite plus 1 percent ammonium citrate gas evolution occurred when the chemicals were mixed, to prepare the thinning solution. To see, whether standing of the thinning solution changes its activity, thinning repeats were made after the end of four and fifty hours. In all cases no rust formation occurred, showing good action of the combination.

Observations:—

(1) Rust promoters:—certain sulphur-containing salts (such as a sulphite, a thiosulphate), methylethyl ketone.

(2) Ineffective agents:—alcohols (butanol), pine oil, sorbitol, urea, lecithin (maybe because of sulphur content, made of soybean was not tried and may be satisfactory), citrates (alone), oxalates, tartarates (last three discolored film completely, or in large blotches.

(3) Rust-spotting inhibitors: — Monoethanolamine (discolored), borax, sodium carbonate, diammonium phosphate (2 percent), sodium nitrite (2 percent) (slight discoloration). Best: 1 percent ammonium citrate plus 1 percent sodium nitrite.

Studies of silicate paints will be taken up later; such coatings are fire-resistant but offer other problems, especially of adhesion. Tests were not made on the effects of multiple coatings; oil absorption of the pigments was not considered. Occluded solvent may affect the flashing test. An electrical resistance test appears promising. Tests of zinc borate and zinc-ammonium phosphate were suggested. Pine oil was satisfactory as a preservative in some coatings; a sodium salt of a chlorinated phenol was good.

Interior Coatings for Drinking Water Tanks

A report on work done for the army in the developing of a suitable coating for the interior of portable drinking water tanks was given by E. C. Haines for the technical advisory committee, as follows:—

In September, 1942, the Philadelphia club was asked to cooperate with the Engineer Board, Fort Belvoir, in choosing a suitable coating for the interior of army drinking water tanks.

Capt. H. H. Black met with our committee at the October and November meetings of the club to clarify the problems. Under his direction the army had already conducted tests on the numerous coatings which were recommended for the purpose or had been used successfully on similar applications. He asked for technical advice in evaluating their work so that a specification could be drawn up as early as possible. No development work was desired as the army wanted a specification promptly on a finish backed by successful commercial use.

The tanks vary from 250 gallons to 2,000 gallons capacity. They are prefabricated of steel and contain baffles 36 inches apart to prevent surging. In each baffle is an elliptical hole 14 inches by 16 inches. The resulting small, closed compartments made the cleaning and finishing operation difficult and sand blasting or spray painting are eliminated.

Normally the tanks are used to carry water containing one p.p.m. chlorine. They may also be required to carry sea water, polluted water, or gasoline. The finish must be non-toxic and tasteless. It must not flux under heat and must remain flexible in arctic weather. It must withstand washing with trisodium phosphate, and must resist the action of steam in changing back from a gasoline tank to drinking water. The finish should last for several years and prevent corrosion of steel. It should be easily repaired.

Our discussion emphasized the difficulty of applying a uniform finish by brushing under the cramped conditions inside the tank. The most satisfactory finish tested at Fort Belvoir was a baked thermosetting phenolic resin. An experienced contractor baked the phenolic on new tanks. Specification T-1690 was written for this system.

An alternate specification was needed for tanks which would be finished in the field where baking is not possible. The army possessed a number of tanks with unsatisfactory coatings. These must be cleaned and recoated. This finish would also be used on tanks repaired after damage in combat.

Synthetic-Resin Types Preferred

Our committee hesitated to recommend any paint containing oleoresinous vehicle due to the absence of any data on the effect of continuous immersion alternately in both water and gasoline. It was thought that a phenolic-wood oil vehicle held the most promise. At Fort Belvoir small scale tests indicated that a vinylite finish was best air-drying finish. The relatively numerous coats were difficult and disagreeable to apply by brush and it was later found that vinylite had poor adhesion to the tank. Two paints made with phenolic resin varnishes showed some promise in the army tests. One was an iron oxide paint, the other a zinc dust-zinc oxide paint which showed up well in tests made on Montgomery dam, Ohio river, by the army engineers. The failure reported for the latter on water tanks was blistering. Mr. Harley Nelson worked with the army on this paint and tests were made to cut down on the wood oil. It developed that a paint made with a 25-gallon phenolic-linseed varnish showed less blistering than a 33-gallon wood oil varnish and was equally satisfactory in gasoline resistance. A number of tests on various finishes were conducted by the committee. We used a cycle: five days in water, heated once each day to 150° F. alternated with two days in gasoline. Although blistering occurred at the end of the first cycle on the zinc-dust paint, no further failure appeared after three more weeks.

On January 15, 1943, a group appointed by the technical advisory committee reviewed with Captain Black the data obtained at Fort Belvoir. A specification (T-1715a) was written around these paints. Composition and performance data for the paints were supplied by the companies who developed them. We

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felt that a satisfactory finish depended on careful application and proper curing of the film. To this end we included tests on a paint film representing the finish on the tank. This paint film is prepared by brushing on a steel panel at the time the tank is painted and curing inside the tank with the tank coating.

Since writing the specification one other paint has been found to hold up well in the Philadelphia club cycle. Other tests indicate that further work on pigment volume and the ratio of zinc dust to zinc oxide in the paint may result in an improved finish.

Conserving Linseed Oil By Substitution

When expectations of an inadequate supply of drying oil became strong subcommittee 9 of the technical committee of the New York Paint and Varnish Production Club began a study of film-forming substances regarded as promising replacements of oils. Some reports of the progress of its work had been made earlier this year. Its study recently has been directed to further reduction of the oil content of civilian paints set by war order M-332.

The materials studied comprised tall-oil pitch, vegetable-oil pitch, tall oil-linseed oil varnish, marine-oil pitch, limed rosin, processed rosin, petroleum drying oil, linseed oil congo varnish, several proprietary oil, rosin, resin, and volatiles combinations, heavy-bodied rosin oil, liquid polymerized terpene resin, liquid decarboxylated rosin. These were tried out in coatings for exterior and for interior application. The conclusions, reported by Austin O. Allen, chairman of the subcommittee, were as follows:—

Exterior Paints

1. No material evaluated up to the present time appears to be suitable for use in whites on account of color, reactivity, or durability. It would seem, therefore, that paint manufacturers might be more successful in their efforts to conserve oil by devoting the major part of their research to products other than white house paints.

2. It appears that the products containing the more durable pigmentations, such as the blacks, red oxides, and chrome greens, offer the most promise in conserving oil since some of the substitute materials could possibly be used to replace up to 50 percent of the declarable oil without too great a sacrifice in durability.

3. There is considerable inconsistency in the performance of substitute materials in various types of paints. Linseed oil replacements should, therefore, be tested carefully in all formulations in which they are to be used before it is safe to predict their effect on the properties of the paint.

4. Tall-oil pitch and marine-oil pitch appear to be among the most promising oil substitutes so far evaluated. In some paints it would seem that they might be used to replace up to 50 percent of the oil content withou too serious a sacrifice in durability, although our results in series II indicate that this amount may cause unsatisfactory drying unless it can be corrected by the use of extra drier.

5. Vegetable-oil pitch is another possibility, although its color is very poor. It has extremely high paint-thickening power which might be advantageous in certain formulations.

6. Crude tall oil cooked with linseed oil and heavily limed might be used in fairly large amounts in certain formulations although it is quite reactive and has a tendency to cause fading and checking. It is about on a par with limed rosin as regards these latter properties, although further exposure may develop differences. Refined tall oil is at present on allocation and, therefore, would be unavailable for civilian paints.

7. The processed rosin used in this work showed little, if any, advantage over ordinary limed rosin although other type of processed rosin might have outstanding characteristics.

8. Petroleum drying oil appears to be even worse than limed rosin in checking tendencies although it might be used in limited amounts in certain formulations.

9. The pale asphalts do not appear to show as much promise as certain other oil substitutes since they are very dark and have high tinting strength in paints. They also cause very bad erosion and fading.

10. All of these substitute materials have a tendency to reduce somewhat the gloss and gloss retention of linseed oil paints, although except in the case of the asphalts, the differences are probably not great enough to cause any serious difficulty. The asphalts cause quite rapid loss of gloss.

Interior Paints

1. Paints containing polymerized terpene resin and decarboxylated rosin did not dry with normal amounts of lead and cobalt naphthenate. Additional amounts of drier were added to three times the normal amount of drier with no improvement in drying properties. These paints were not tested for any other properties. It was felt that all of the other materials with some formulation adjustments would be satisfactory for interior flat wall paints.

2. Interior enamels made with proprietary mixtures also dried poorly in addition to those containing the polymerized and decarboxylated materials. We believe, however, that the poor drying of the first three could be corrected by the use of additional drier. It was felt that thoroughly satisfactory inerior gloss paints could be made from all of the materials with the exception of the two which failed to dry. Some formula adjustment would be required in most cases to correct such physical properties as settling, sagging, brushing, drying, etc.

3. Based on a limited number of tests and determined after moderately severe accelerated aging (five hours at 110°C.), it would seem that paints made from a number of these resins may be considerably more flexible than those containing limed rosin at corresponding oil lengths. These results are subject to further verification, particularly after more extensive aging. The various resins have been rated tentatively in the following order for flexibility:—

Proprietary processed rosin No. 2.....Best
Proprietary liquid resin No. 5.....Second
Proprietary liquid resin No. 7.....Third
Proprietary drying oil No. 4.....Fourth
Slack melt congo.....Fifth
Limed rosin.....Sixth
Heavy-bodied rosin oil.....Poorest

4. The paint made from congo gum vehicle was noticeably poorer in color than any of the other paints. It was felt that the color of the paints made from all of the other resins would be satisfactory as regards initial color. The degree of discoloration produced by the various resins in the aged paint films is yet to be determined.

5. The paints in series II made with various oils were all satisfactory in color, but several showed hard settling, sagging, poor brushing, etc. Linseed oil, 86 percent, with 14 percent flexible resin, blown soybean oil, and closed kettle-bodied linseed oil produced paints somewhat inferior in application characteristics, but this might possibly be corrected by formula adjustments.

6. Blown soybean oil and closed kettle-bodied linseed oil appeared to give paints somewhat better in flexibility than the others, based on a limited series of tests, although these results are also subject to verification.

7. While our work is still in progress, we believe it already indicates that there may be a possibility of producing satisfactory interior paints with even less oil than required by the M-332 order by the proper selection of flexible resins and oils.

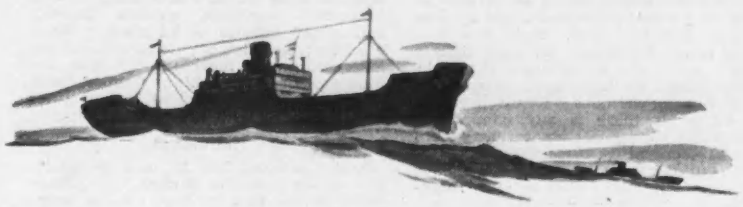
Fifty-five panels covering the various experiments were exhibited by Mr. Allen. He told an inquirer that marine-oil pitch was available in goodly quantities.

Synthetic Developments With Fats and Oils

In a comprehensive review of the trend toward tailor-made oils, resins, and other paint materials, which he forecast would become more emphatic after the war, J. Edmund Good, vice-president of the Woburn Degreasing Company, included the following references to the contributions in this connection deriving from fats, oils, and fatty acils:—

J. Edmund Good

There are two developments which I believe will come about in the postwar period in connection with fatty acids for synthetic resins. One is the fractionation of fatty acids. By removing the nondrying constituents, the iodine value of the remaining portions will be raised, and thus a quicker drying resin



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will be obtained. Linseed fatty acids consist approximately of 10 percent palmitic and stearic acids, 10 percent of oleic, 41 percent of linoleic, and 39 percent of linolenic acid. It is comparatively simple to remove the palmitic and stearic acids, but to separate the oleic, linoleic, and linolenic acids from each other is a much more difficult problem. We doubt if there is any commercial apparatus in existence today that is capable of segregating these three acids as such, but it can be designed. We have made pure linolenic acid in our laboratories, but it is a very costly operation. However we know what is needed in the way of apparatus and in time no doubt it will be designed and built. On the other hand it may develop that separation by the solvent process will prove the best method.

Conjugated Fatty Acids

The other post-war development involving fatty acids in resins is the use of conjugated fatty acids—in fact since these conjugated fatty acids are available now, some firms have already begun to use them. Their advantages over natural fatty acids are clearly evident. With the double bonds in the conjugated position these fatty acids take on properties somewhat similar to those of Chinawood Oil Fatty Acids. Because of their increased polymerizing speed alkyds can be prepared in less time and this property is imparted to the finished alkyd as well. Such alkyds have greater thermosetting speed than alkyds made from natural fatty acids and tests have shown that this difference of baking speeds between the two fatty acid alkyds is the greater the higher the temperature of baking. Even at ordinary temperatures, that is on air-drying, the conjugated alkyds are somewhat faster than those made from the natural acids, but not in proportion to their increased bodying and thermosetting tendencies.

There are at present three of these synthetic conjugated fatty acids that are in commercial production. One made by distillation from dehydrated castor oil, one made and conjugated from linseed oil and one made from soybean oil by the same process.

Linolenic acid seems to be the chief trouble-maker so far as after-yellowing is concerned. Therefore, a fatty acid or an oil with a smaller linolenic acid content has better color retention and one with no linolenic acid approaches absolute color retention.

Incidentally there is available a fatty acid, helioline-D, with no linolenic content, which is a fractionated highly refined portion of cottonseed oil and which gives results practically identical to those of sunflower oil fatty acid. Sunflower oil as we know, has a very good color retention and also contains no linolenic acid, but is not available now.

Duplicating Tung Oil

The first serious attempt to duplicate this molecular structure of Tung oil was made with castor oil. The process of dehydrating castor oil which in its natural state is a nondrying oil and thus converting it into a drying oil with characteristics somewhat similar to those of tung oil, consists of removing two atoms of hydrogen and one atom of oxygen from the castor oil molecule. These three atoms combine to form water vapor and pass off in that condition, but water was not present in the oil as such. This conversion of castor oil into dehydrated castor oil is made from the whole oil without the necessity of first converting the oil into a fatty acid and then esterifying the fatty acid. It thus differs from the Scheiber process.

By this time the industry is thoroughly familiar with dehydrated castor oil, knows how to use it, knows what resins are required and is well satisfied with the product. We believe that dehydrated castor oil will continue in use after the war because of its inherent properties, regardless of the fact that tung oil might be readily available in the future.

Investigation was being conducted at the same time to see if the tung oil characteristic could be carried into domestic oil such as linseed and soybean. Out of that work came conjugated double-bond linseed and soybean drying oils. We have previously referred to the fatty acids of those oils. The method of conversion for these oils is different from that of castor oil. In the case of linseed and soybean oils the conjugation is brought about after the glycerin has been removed from the oil molecule. The conjugated fatty acid is then processed and esterfied. In isomerizing soybean oil we approach tung oil to about the same degree as we do in dehydrated castor oil. The product is color retentive to a high degree and retains the flexibility of dehydrated castor oil. Progress in connection with the use of conjugated soybean product has been retarded by the fact that soybean oil for quite some time has been allocated only for edible purposes and for a few special industrial purposes.

Isomerized linseed oil is a much nearer approach to tung oil than is dehydrated castor oil or isomerized soybean oil. The gel time is only a little longer than that of tung oil, and its water resistance is at least equivalent to that of tung oil. In numerous tests it has shown greater water resistance than tung oil. Its film is tough and hard rather than brittle and it retains flexibility. This oil is a satisfactory substitute for tung oil in the manufacture of insulating varnishes, wrinkle finishes, and baked finishes of all kinds. When used in baked finishes its rate of drying increased much more rapidly than the increase in the baking temperatures, and those finishes can be baked either in the oven or with the infrared ray.

Problems Are Individual

Every product has its own peculiarities which must be studied and understood before that product can be properly handled. This of course is true of the conjugated oils. The cooking procedure, cooking temperature and use of the proper resins is all a part of the successful handling of them as well as of other oils. In general it has been found that the majority of the resins which react favorably with dehydrated castor oil also react satisfactorily with the isomerized linseed or soybean oils. As the use of these oils becomes more widely extended, new resins no doubt will be developed if they are necessary.

Considerable progress has been made along the lines of esterifying various fatty acids with different types of the higher alcohols. It is quite likely that some good oils of this nature will soon be on the market.

Some Newer Oils For Varnishes

Chicago Club

With the purpose of comparatively and concretely evluating the varnish-making properties of a number of the talor-made oils put on the market during recent years, the Chicago Paint and Varnish Production Club started an exhaustive study of ten such oils in combinations with typical varnish resins. The exact nature of some of the oils could not be learned; some were isomerized or segregated fish or linseed oils; some were linseed oil treated with maleic anhydride, phthalic anhydride, or other polybasic acids, glycerin, pentaerythritol, or other polyhydric alcohols.

These were made into 20-gallon-length varnishes of eight types, and the eighty coatings were tested for resistance to cold weather, boiling water, alkali, abrasion, salt spray; for skinning, acid number, drying, reactivity with zinc oxide, hardness, color, viscosity; and by actual and accelerated weathering. These tests were outlined in a paper presented by the club.

The oils tested were the following:—

1. Kellin (Spencer Kellogg & Sons).
2. Conjulin (Woburn Degreasing Company).
3. Esskol (Spencer Kellogg & Sons).
4. Hardestol 7 (W. C. Hardesty Company).
5. Hardestol 11 (W. C. Hardesty Company).
6. 710 oil (V viscosity) (National Lead Company).
7. Varnex (Archer-Daniels-Midland Company).
8. Zymol (Archer - Daniels - Midland Company).
9. Alkoil R (Alkydol Laboratories).
10. M7½ OKO linseed (Spencer Kellogg & Sons).

Some of the results of the tests reported sum up as follows (the numbers referring to the list of oils above; the arrangement being in descending order of resistance and other properties):—

Cold water	Hot water	Abrasion	Alkali	Hardness
8	9	10	5	3
3	8	3	8	4
2	3	2	6	5
9	2	8	1	8
5	1	5	10	9
1	7	1	7	1
7	6	7	3	6
10	5	9	4	7
4	10	6	2	10
6	4	4	9	2

In the accelerated weathering tests, at fifty hours, oil 8 was best, oil 2 was next; oils 3 and 10 were third; oils 1, 4, 5, 7 and 9 were fourth; oil 6 making the poorest showing. At 100 hours, the oils fell into two groups; 2, 3, 4, 7, and 8 making the better showing. All the varnishes passed the one-week salt-spray resistance test satisfactorily. None of the oils showed any particular weakness with regard to skinning in varnishes made from them. No oil was reactive in the zinc oxide test. Oils 6 and 3 had the most likelihood of high acid members; oils 7, 10, and 4 were rated lowest.

Pigment Determination

St. Louis Club

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ed a method of determination in which the procedure is as follows:—

A well-stirred sample of paint or enamel is placed in a stoppered weighing bottle and weighed. Five to 10 grams of the sample is placed in a 400-milliliter beaker. The exact weight of sample is determined by reweighing the partially empty bottle and subtracting the second weight from the original weight. Twenty-five milliliter of the extraction mixture is added to the 400-milliliter beaker containing the sample. The beaker is swirled until the paint sample and extraction mixture form a homogeneous mixture. Approximately 5 grams (accurately weighed) of preignited filter-aid are added to the contents of the beaker. The beaker is again swirled until a uniform mixture is obtained. The use of a stirring rod is not recommended at this point. The suspension is vacuum-filtered through a previously prepared gooch crucible. The beaker is washed three times with 25 milliliter portions of extraction liquid, which in each case is poured into the gooch. The 400-milliliter beaker is finally washed clean with a washbottle stream of extraction liquid and a neoprene "policeman." A final wash of 5 milliliter of ethyl alcohol, followed by 5 milliliter of ethyl ether hastens the subsequent drying.

The crucible is taken from the holder, placed in an oven at 200° F. for forty-five minutes. Upon removal from the oven it is transferred to a desiccator to cool. When cool it is weighed to obtain the weight of pigment contained in the sample.

Weight of dried crucible and pigment minus weight of prepared crucible and filter-aid equals weight of pigment in sample.

Experiments on five batches of each of eight types of paints and enamels, not including emulsions, led to the following conclusions:—

The method which we have described seems to have sufficient accuracy, judging from the experimental results obtained, to satisfy the purpose for which it is intended.

The time required for the complete determination, one and one-half hours, is much less than that required for other methods. The technic is of such a nature that anyone can quickly become proficient in the use of this procedure.

Further work could be done on the quantitative chemical analysis of the residues obtained, the only extraneous materials introduced being silica and silicates, which would not interfere with most analytical procedures. We believe that the simplicity, reproducability, quickness, and accuracy of this method make it merit the consideration of technical paintmen in general.

Synthetic Resins Come of Age

Development, status, and trend in connection with synthetic resins for paints and varnishes were covered in a paper by W. F. Whitescarver, of the American Cyanamid & Chemical Corporation. Admitting astonishment at the constantly coming new things in

W. F. Whitescarver

the resinous field and expecting more and more, the speaker nevertheless looked for gradual, rather than instantaneous transition from customary materials to full adoption of new ones. The matter of plant and equipment changes and technical adjustments was one of the retarding factors he foresaw at work.

Over all, the picture, as Mr. Whitescarver sees it, is as follows:—

Under the necessity of war, American chemical industry is today producing many totally new products and is also producing in vast quantities materials which only a short while ago were practically laboratory curiosities. In the post-war period these materials will press for new markets, and likewise in various research laboratories men are trying to utilize these new chemicals in fields totally foreign to those for which they were primarily produced. For example the various chemicals which now constitute our synthetic rubber industry must be looked upon by the resin and paint chemist as new raw materials to be reacted with or combined in new and improved vehicles for paints and enamels. Possibly we can develop a practical "rubber paint," having satisfactory paint characteristic and at the same time embodying at least some of the desirable properties of rubber. Our industry must critically examine every advancement in synthetic rubbers, plastics and other fields and endeavor to so modify these products as to make them applicable to surface coatings. This is necessary to our continued prosperity. To a certain extent it is actually being done today, as for example in combinations of melamine resins with certain synthetic rubber-like compounds for flexible and resistant coatings.

As illustrations of how developments in one field may affect another industry we may mention two wartime developments in our own company. In the laminating field phenolic and urea resins have been applied for many years under pressures running up to several hundred pounds per square inch. This had many disadvantages, not the least of which was the extremely heavy, expensive and power-consuming equipment required.

Laminating Developments

Some improvement was effected in recent years with the development of so-called "low-pressure" laminating resins, which however still called for pressures of 75 pounds and upwards. The latest technic is aptly called "contact laminating" since only a pound of so of pressure is required—just sufficient to insure uniform contact of the resin impregnated sheets to be laminated. This process, now being employed on important warwork, utilized "Laminac" resin which was taken from the test-tube and put into commercial production less than a year ago. This interesting resin cures entirely by polymerization, with none of the volatile by-products characteristic of resins which harden by oxidation or condensation. The development of a practical technique for its application as a surface coating has

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not as yet been developed, but this is an intriguing problem and in all probability a product of this type will someday be made which is suitable as an enamel vehicle.

The second illustration is the application of a melamine resin to produce wet strength in paper. Introduced during the actual manufacture of the paper the melamine resin not only imparts remarkable wet strength to paper but very surprisingly actually makes a considerable improvement in its resistance to breaking when folded. This development is not likely to have a direct bearing on the paint industry except for those companies which are likewise in the printing ink field.

In conclusion it appears to us that, at least for some time to come, the backbone of the paint industry will consist of those products containing the present types of synthetic resins due to their proven value in wartime use and the familiarity of industry and the public with them.

Improvements Expected

We said present "types," and we did not mean to indicate that there would be no changes or improvements in them. On the contrary all of us have learned a lot under the force of war necessity and I think I am safe in assuring you of improved resins just as soon as raw materials and plant equipment are again freely available. On the other hand you and we must be quick to seize upon every new raw material and development and utilize it in surface coatings. We must borrow from the synthetic rubber, plastic, and adhesive fields and at the same time push to the point of practical application many of those radically new developments which today are in the test tubes of the research chemists. Your prosperity and ours is dependent on such a program. Since the paint and varnish industry is a major consumer of synthetic resins you may be sure that the resin manufacturer will bring to you as quickly as possible all new developments in this field.

Pressure of war problems has prevented completion of developments for the nonwar future, but use of new technics and new materials already assure you of faster drying, cheaper, and more durable resins than prewar developments had produced. The alchemy of modern chemical research can be counted on for further improvements and new ideas, which will be presented to you to aid in your experiments as soon as the war is won and peace will permit the transfer from test tube to commercial production.

Utilization of Dispersion Resins

Developments in continuous phase and dispersed phase coatings in water-extendable oil paints, and in resin-emulsion coatings were succinctly reviewed by William R. Catlow, jr., of the Bakelite Corporation's development laboratories. He turned with particular attention to the nonaqueous

William R. Catlow, Jr.

dispersed phase coatings designated as dispersion resins, which, he pointed out, should be considered only in the light of the behavior characteristics of two-phase systems.

The most important fraction in dispersion resins is that within and slightly above what is generally considered to be the colloidal range, the film-forming properties of the resin solution being removable by dialysis, but not by paper-filtration. Outlining the physical properties and behavior of dispersion resins in terms of gelling, drying speed, curing, baking, flexibility, aging, resistance to moist-

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ure, and other characteristics, Mr. Catlow went on to say:—

With these properties in mind, logical applications fall neatly into place. The most important application has been that of the anticorrosive primer for aircraft having been in increasing use over the last ten years. Current developments make possible the use of a dispersion resin containing no imported oils in coatings of this sort. Further reductions in criticality are made through the use of a major portion of aliphatic hydrocarbons in the primer thinner. Excellent results have been obtained in the use of dispersion resins in refinishing primer-surfacers and touch-up primers for the automative trade. Very few refinishing shops have production line baking facilities. Shop coats for steel may be prepared which do not hold up production, yet protect the manufactured article whether it be stored indoors or out, or for a long or a short period. A direct descendant of this use the formulation of fast drying ammunition paints where adequate protection against corrosion must be obtained. Another notable metal protective application is that of a "sandwich" coat of dispersion resin primer between a conventional oleoresinous primer and the top coat. Systems of this sort have given outstanding durability in the tide range.

Successful top coats for wood, metal, paper and concrete have been made, and should find increasing use in normal times. On wood, soaking tests of more than three years in water are still running with no breakdown. On metal, very attractive satin finishes may be obtained as well as solid colors. One interesting example is that of a dip coating for large armored electric cables. These are dipped in a dispersion resin paint and rolled up on a spool—all in one operation. Paper, even tissue, may be coated without penetration and "boardiness." Concrete, adobe, and wallboard may be primed so as to decrease enormously their rate of water absorption. Top coats, of course, are held out very well by the dispersion resin undercoat.

Variety of Possibilities

By blending varnishes with dispersion resins, very quick-setting, low-cost enamels may be obtained. An even more striking effect is obtained through the blending into a dispersion resin enamel a varnish which is on the edge of being incompatible. On drying, a pigment flocculation takes place, showing the base coat in an irregular pattern. The process appears to be capable of almost as many variations as is that of producing wrinkle finishes.

A number of miscellaneous and often surprising uses have been found. For instance, it is possible to prepare a patching wood which will shrink down, but not shrink appreciably across. Thus, the patch does not fall out of the knot hole. Caulking compounds have been suggested. The fast dry and water resistance of these resins have made possible the decrease of the hazard of wet and slippery decks on ships; and on shore, the familiar railway car vestibule. Industrial plants and public buildings should, in time, afford a vast outlet for such nonskid coatings.

At present, needless to say, the entire production of dispersion resins is going into war work. Some types are limited to coatings for functional portions of aircraft and a few other vital applications. Types based on less critical raw materials have been developed and should shortly be available for other good end uses. Certainly they will broaden the base of the properties obtainable from this type of resin, as well as their economic suitability for diversified uses.

It is hoped that this description will help to clarify some of the questions in the minds of those working with this type of "dispersed phase" resin, and will help increase their use wherever the technical requirements of the application make such use warranted.

Nitroparaffins in Specialty Coatings

The influence of the nitroparaffins on the development of specialty coatings in the future was discussed by Ralph L. Ericsson, of the Commercial Solvents Corporation, covering mainly nitromethane, nitroethane, 1-nitropropane, and 2-nitropropane, which are the only ones as yet commercially available and having wide solvent applications in the protective coatings industry. The mild odor of the nitroparaffins, he explained, make them desirable as solvents even in pyroxylin lacquers for food packages, nail enamels, and other uses. They are especially interesting as medium-boiling solvents for cellulose acetate.

Mr. Ericsson explained the behavior of nitroparaffins in solvent compositions with acetone, ethyl alcohol, butyl alcohol, toluene. He told of their usefulness as solvents for cellulose acetate-butyrate, a substantial addition of toluene being practicable. Their solvent properties in connection with vinyl resins also cellulose triacetate were told. The speaker continued:—

Now that some of the solvent properties of the nitroparaffins have been outlined, let us turn to a brief glance at some of their applications which may be expected to grow after the war. Certain effects may be obtained with the nitroparaffins which cannot be obtained at all or only with considerable difficulty with other solvents. For example, it has long been desired to apply lacquer coatings to cellulose acetate plastics. If this could be done, substantial savings in the expensive organic pigments and dyes could be obtained and a greater flexibility in manufacturing operations would result. Nitrocellulose,

Ralph L. Ericsson

vinylite resins, and practically every other coating material tend to draw the plasticizer from these plastics with the result that the lacquer coating is rendered excessively soft. Cellulose acetate itself cannot serve as a base for lacquers to be applied to cellulose acetate plastics because the solvents in which it is dissolved frequently craze and wrinkle the surface of the plastic.

Cellulose acetate-butyrate lacquers containing special nitroparaffin solvent mixtures overcome both of the difficulties just mentioned. The first consideration is to select a solvent mixture for cellulose acetate-butyrate which has no solvent effect on cellulose acetate. This precaution is necessary so that crazing of the plastic surface may be avoided. Such a lacquer can be made with nitropropane if alcohols or similar solvents which activate the nitropropane toward cellulose acetate be eliminated from the formula, at least below the point at which solvency for cellulose acetate is obtained. Furthermore, plasticizers apparently have no tendency to bleed from cellulose acetate into films of cellulose acetate-butyrate. There has long been a demand from molders for lacquers to be applied to plastics, and the volume which may be required by this application promises to be very large.

Very often it is desired to improve the gloss on a cellulose acetate plastic without resorting to expensive mechanical polishing. It has been found that very attractive glossy surfaces may be readily obtained on such plastics by dipping them in a mixture of solvents comprising nitropropane, ethyl alcohol, and butanol together with other solvents and diluents. Such mixtures have also been used to cement plastic articles together or to other materials where the plastic will serve as its own adhesive.

Another potentially important after-the-war application of the nitroparaffins is in paint and varnish removers. The nitroparaffins considerably improve the softening and lifting powers of ordinary removers, and formulas have been devised which will even lift many baked resin finishes as well as aged and completely oxidized paint and varnish films.

In Chemical Syntheses

In addition to their excellent solvent properties, the nitroparaffins are also opening up entirely new lines of investigation in organic chemical synthesis. As a matter of fact, the four nitroparaffins which have previously been discussed are today being made into five different but closely related emulsifying agents, one of which has been used in considerable quantities to make a camouflage paint for the armed forces. This paint, containing oil, resin, drier, mineral spirits, and emulsifying agent, is so formulated that it can be thinned with gasoline, sea water, kerosene, ordinary water, or almost any liquid which will evaporate. After the paint has been applied and permitted to dry about an hour, the film which results is waterproof.

Optimum waterproof characteristics are obtained when the nitroparaffin derivative, 2-amino-2-methyl-1-propanol is the emulsifying agent.

The use of emulsion-type interior paints may become quite general after the war primarily because the housewife will probably not tolerate the smell of drying paint when she finds out that it is no longer a necessary evil. For

household use, it will also be advantageous if an emulsifying agent is used which imparts maximum water resistance.

The plant in which the nitroparaffins and their derivatives are being made is a comparatively modest one in size and supplies are limited and occasionally not available at all for strictly civilian products. Important war applications for these materials have been found in fabricating army raincoats, in making special aircraft dopes, and in other ways which may not now be revealed. A very much larger plant is planned for erection after the war and it is expected that not only will reductions in their prices result, but the larger quantities available will enable the paint, varnish and lacquer industry to use the nitroparaffins freely in the types of coating just discussed.

Pigmentation of Postwar Paints

Confessing the difficulty of anticipating technical developments, D. H. Dawson and F. E. Bolton, of E. I. duPont de Nemours & Co., gave a broad general picture of expectations with reference to pigmentation trends after the war. They cataloged the past and the present to provide a taking-off field for an observation of the future. Among the things they saw and reported were the following:—

First, in the field of opaque white pigments, the demand for more concentrated opacity, higher hiding power per unit of opacifying pigment, is clearly evident. You are all aware of these changes, involving white lead, zinc oxide, lithopone, extended titanium pigments, and titanium dioxide. In every case, the lower hiding pigment continues to have an important part in our paint technology—usually not primarily for its opacifying value, but because of other properties, such as reactivity with vehicle constituents, durability on exterior exposure, etc.

The most recent step in this procession was the substitution of a titanium dioxide of different crystal form with higher refractive index and consequent higher hiding power. This change from anatase to rutile titanium dioxide is perhaps less obvious because the chemical compositions of the two products are the same, but represents a change identical in principle to those which preceded it. Full application of this increased hiding power lies still in the future and will be discussed later.

The second generalization from the history of the pigmentation of organic coatings refers to the colored pigments which are employed. The more brillant, stronger colors have grown at the expense of the less bright and weaker colors. The most notable example is the automotive field, particularly in the maroon shade range, but the trend extends to all phases of decorative coatings. This has resulted in greatly increased use of organic pigments, usually at the expense of the less brillant inorganic types.

Improved Grinding Technic

One of the most important developments in pigment technology which was available but not widely exploited prior to the war was the correction of the slow wetting and grinding features of many pigments. The most important applications of these technics were, of course, to those pigments which presented the greatest difficulties in grinding. Iron blues, long recognized as hard pigments to grind, were the first to become available in this form. Chrome yellow, chrome greens and Lithol reds followed. These improvements in mixing and grinding permit reduction of grinding costs and greatly increased capacity for any given equipment. Large production demands and the necessity for minimum costs in the postwar period will make the utilization of easily ground pigments imperative. The frequent restandardization of color lines which will be necessary because of wartime disruption of established sources of supply, elimination of colors, etc., should simplify the introduction of these pigments. Incorporation of such increased ease of dispersion into other lines of colors can be expected.

Molybdate orange, an important item in European markets prior to the war, has maintained a steady growth in this country. Its exceptional brightness in comparison to other inorganic pigments, and especially its high opacity, have stimulated its use where decorative value and economy are important considerations. Its field is somewhat limited by its relatively poor lightfastness. Improvement in this characteristic will greatly increase its usefulness.

Influence of Emulsion Types

There can be little doubt that the public response to the national commercialization of resin emulsion paints was the most startling development in the industry during the war period. It is difficult, if not impossible, to predict the effect which this development will have on postwar practice. The consensus of opinion seems to be that improved products of this type will play a very large part in the postwar market for interior flat paints.

These changes will have profound effects on pigmentation. Oil in water emulsions militate against the use of calcium sulphate and most calcium carbonate extenders. They favor the use of clay, barium sulphate, mica, and diatomaceous silica. In the opaque pigment field, the overpowering hiding power advantage of the titanium oxide pigments over the zinc sulphide pigments in orthodox flat paints may be decreased to varying extents, depending on the nature of the formulation. In those systems which are usually classed as casein paints, zinc sulphide pigments are almost universally accepted; in those systems which are classified as resin emulsion paints, combinations of titanium dioxide and zinc sulphide pigments today find widest acceptance. There is a definite trend from lithopone to titanium dioxide plus lithopone plus clay and other extenders. Whether this trend will continue depends in large measure on the vehicles which are selected. If, as seems probable, this field grows toward alkyd emulsions, it is likely that a continued trend toward titanium dioxide plus extender will be seen. This assumes also that the present public preference for a white not too high in brightness will continue. The commercially available extenders suitable for use in this field are of such brightness that any titanium dioxide-extender paint will be slightly lower in brightness than a titanium dioxide-lithopone paint.

D. H. Dawson

Resin emulsion paints pose new problems in colored pigments. In general, brightness, strength—with its resultant economy in pastel shades—a reasonable degree of lightfastness, and alkali resistance are demanded. Many pigments commonly used in the water vehicle field fall short in one or more of these requirements. Chrome yellows and chome greens are not sufficiently resistant to alkali; cadmium yellow is low in tinting strength and expensive; the iron oxide pigment is deficient in brightness. Hansa yellow types and the phthalocyanine blue and green are, therefore, making inroads into this field, and can be expected to grow in importance. Certain difficulties with the organic pigments, notably instability in some resin emulsion systems, require study, both from the pigment and vehicle standpoints. Further exploration of this field, particularly in the organic yellow group, can be expected to produce colored pigments more suitable for this class of finishes.

Postwar Applications

The major new opague white pigment released during the war period was the high hiding, chalk-resistant rutile titanium dioxide. This pigment was released because of its applications to fade-resistant, lustreless war paints. It has been widely adopted in Government specifications, and has been used to formulate more chalk and fade-resistant finishes than could otherwise have been prepared, retaining, at the same time, the color and hiding power advantages inherent in rutile titanium dioxide.

Rutile titanium-calcium pigments have replaced almost completely the anatase types. The expected modifications of these pigments have appeared on the market, but have not been fully exploited by the consumers. Included are special high gloss, good fineness varieties for gloss paints, and high consistency, high flat hiding power varieties for economy in flat paints.

Zinc yellow is another pigment which has witnessed phenomenal growth during the war period, due to its almost universal adoption for non-ferrous metal primers and its increasing use in ferrous metal primers, as in the Navy Bureau of Ships practice. The improvements which have been made in this pigment, its lower cost and wide availability, together with the expected large demand for metal priming paints, will lead to its widespread adoption in the most progressive lines.

No forecast of pigment developments in the postwar period can be made without mention of the fact that there

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will be available new and different vehicles. You are being told today what these new resins and oils may be. I can only point out that you cannot change either pigment or vehicle in a paint system without profound effects on the other component. When you reformulate from an ester gum-linseed oil varnish to an alkyd, you usually change the pigmentation. If, as has been predicted, alkyds are more widely used than ever before during the postwar period, we can expect that the peculiarly complementary properties of the alkyds and titanium dioxide will result in your even more widespread adoption of this pigment. If the new vehicles are made from resins, oils and chemicals which are little known at the present time, you will doubtless have new demands for pigments, and demands for new pigments which cannot now be foreseen.

Much study, both on the part of the pigment producer and the paint technologist, is needed of the behavior of colored pigments in these new vehicles now in the offing and likely to be of major importance in the future. Among these may be mentioned the urea-formaldehyde and melamine modified alkyds, vinyl resins, methacrylate resins, polystyrenes, and probably others. The dispersion characteristics of these vehicles, and problems introduced by solvent combinations, revised baking schedules and similar application problems will require intensive study. There is evidence that formulating practices based on familiar vehicles may require radical alteration in these new resins, and pigments tailored to the new requirements will undoubtedly be forthcoming.

Expectable Developments

A few possible new pigment developments which can be expected to appear in the postwar field can be suggested. The problem of the lightfastness of chrome yellows has been under constant study for many years. There has resulted from this study large improvements which are embodied in many of the commercial pigments of the present time. Further improvements are indicated—the lightfastness of the chrome yellows is still far from perfect, and improvement should further expand the field for these low cost yellows.

Certain gaps in the available colored pigments are recognized, and will undoubtedly be filled in as pigment technology applies itself once more to the problems of peace. There is, for instance, no nonbleeding, durable organic red in the light-red shade range. Cadmium red, now the only available pigment, is deficient in brightness, expensive for its strength value, and subject to operating difficulties. A bright, nonbleeding organic red in this shade range will find wide application.

Chrome yellows, now the standbys in the paint industry, are still not sufficiently lightfast in pale tints to give satisfactory service. The organic yellow field, heretofore incompletely explored, may produce the answer to this problem.

Toning pigments in the very deep maroon to violet field are inadequate. They are, for the most part, either lacking in lightfastness or productive of dull shades in combination with other pigments. Unexplored pigment fields hold promise of yielding improved pigments of this type.

In the field of rust-inhibitive pigments, further improvement in zinc yellow may be possible. The possible importance of the presence of small amounts of electrolytes in zinc yellow on its corrosion-resisting properties has attained recent publicity, and study of this factor by government agencies and private industry is in progress. Of equal interest is the approach of other inhibitive pigments into this field. Among these may be mentioned zinc tetroxychromate, a basic chromate free from alkali metals. A recent development has been the introduction of ammonium--ferrous phosphate, described at the recent meeting of the American Chemical Society in Pittsburgh. This greenish gray, flakelike pigment has been found to improve markedly the rust-inhibitive effect of zinc yellow.

It should be emphasized that some of the arguments which have been cited as evidence for the reappearance postwar of 1942 model automobiles are valid also for the pigment industry. Many new pigments, particularly when they represent radical modifications, require new equipment. That equipment has not been available for the past two years, and it does not appear likely that it will be available in the immediate postwar period, particularly in view of the backed up demand for important maintenance and for consumer products. Therefore, even new products which have been successfully worked out during the war period will be delayed by difficulties in obtaining equipment, buildings, etc.

Of equal importance is the fact that comparatively little attention has been given to research efforts on new postwar products. Obviously, the war has come first. Most of the research undertaken by the pigment manufacturers, it can be safely said, has been directed towards acute problems involved in keeping their plants operating in view of drastic shortages and suddenly unavailable materials. The attention of the remainder of their research staff has been devoted to improvements related to immediate war applications. Only in rare instances has research directed toward postwar goals been possible.

These postwar changes are therefore going to be slow. There will be no choice but to start the postwar world at a point which represents some combination of the pre-war and the war periods. After that, research will produce profound changes in the paint, as well as other industries.

Paint Conditions Beyond the Horizon

In spite of technical developments popularly expected to diminish the need for protective coatings, the future of the paint industry is blue with brightness and nothing to be blue about, as it is foreseen by Paul O.

Paul O. Blackmore
F.P.V.P.C. Treasurer

Blackmore, director of product engineering and development for the Ault & Wiborg Division, Interchemical Corporation. Speaking to the topic, "Beyond the Blue Horizon," Mr. Blackmore hurried through the blues era of the depression and through the disruptive effects of war to go on to speak promisingly on what lies ahead. He said:—

In our own industry we were nurturing a new baby that had made its debut in the late twenties. Alkyd resins were just becoming well established and showed promise of revolutionizing an industry. Then along came urea-formaldehyde, melamine, polystyrene, polymethyl methacrylate, new hydrocarbon resins, new rubber resins, new vinyl derivatives, new easy-grinding, more permanent pigments, rutile titanium dioxide, and many others too numerous to mention.

With these new tools the paint industry took on a new complexion and finishes that were faster drying, harder and yet more flexible, colorful and yet more permanent, easier to apply and yet more durable, began to make their appearance. Baking schedules were cut from hours to minutes—even to seconds. Resistance to chemicals, salt spray, water, and humidity was tremendously increased. Most significant of all, however, was the slow but sure transition from an industry that employed cut and dried methods to one whose approach to the solution of a problem was a planned scientific one. The attitude "I don't care if it's made from ashes, just so it works" gave way to "It's all right with me if you want to make it out of ashes, but I want to know about it so I can choose pigments that will not be discolored by alkali."

We began to realize that ours was a world of chemical reactions, and that they could be made to work for use if we understood them, could cause us a lot of headaches if we did not. Truly, we were on the threshold of a blue horizon.

Some Problems Solved

Some of our problems really taxed our ingenuity. Cut off from our sources of supply of things that we had come to consider as being indispensible, we had to find substitutes. The oil chemists took linseed oil apart to find out what made it tick. They put it back together, leaving out some of the parts, and made it dry better. The paint chemists took this oil and made a wrinkle enamel out of it. Mrs. Al Goetz took it and made a cake.

We started out with soybean oil and ended up with synthetic rubber. We started out with styrene and ended up he same way, physically if not chemically.

These achievements have shown us that an oil is no longer "an unctuous combustible liquid" which one puts in a bottle and heats with a resin to form a varnish. Rather, it is a chemical, or a mixture thereof, that can be refined, iso-

lated, reacted, and transformed into as entirely new raw material with properties wholly unallied to the original oil from which it was made.

We have new polybasic acids and new polyhydric alcohols, new amines, and amides, nitroparaffins and aminoparaffine, 70 percent chlorinated paraffin, new hydrocarbon polymers, new copolymers of all descriptions, new petroleum resins and solvents, and other things far too numerous to mention. Some of them you will hear more about in other papers presented at this symposium. Others will not come out of hiding until the war is over, but of one thing you may be sure: the first few years following the signing of the peace will see the greatest scientific progress the paint industry has ever known.

Influence of Plastics

The question is frequently asked as to what role plastics are to play in the shape of things to come, and what the effect will be upon our industry. Apparently much sleep has been lost in the contemplation of this subject.

There is no question but what we are witnessing the birth of a giant new industry. Plastics are not only here to stay, they are here to expand into fields which some of us like to call our own. But he who would become a victim of insomnia because of it must have the shortsightedness of the lac insect who excretes resin about himself until he causes his own death, for he can hardly fail to see that for every market lost there are a dozen to be gained.

Truly, many plastic articles will be made that will contain their own decorative colors and will not have to be painted, but a big field for plastics will be in the lamination of wood, paper, cloth, etc., to make new synthetic materials of construction that can be fabricated into all sorts of things from hatracks to houses. Volume production and economy will not permit these materials of construction to be manufactured in all the colors of the rainbow. As a matter of fact, most of them will not be colored at all, and rather than diminishing our market, they will increase it. Already the company with whom I am employed has developed and sold substantial volumes of finishes for plastics and the parade has just begun.

In addition to plastics, the war has brought us manifold increases in the production facilities of nonferrous metals, such as zinc, aluminum, and magnesium, for die castings. They will be plentiful and cheap. They have some desirable properties that plastics do not, lower cost per pound being only one, but a very important one. They will have to be painted to protect them from corrosion as well as for sales appeal.

Let the plastics come, for we will come right along with them. Their raw materials and ours are in many cases identical. As they do research and get smart, our store of knowledge increases also, and, of course, the flow will not be unidirectional. They, too, will learn from us.

Therefore, it is all to the good. So, throw the aspirin away and keep plugging. Meanwhile, keep your eye on those silver linings. They are growing brighter and brighter, and one of these days, that horizon is going to break through. It's going to be mighty brightly blue.

Infrared Reflectance and Radiance Absorption

New England Club

Additional records of its work in the study of the influence of infrared reflectance values of paints on their ability and capacity to absorb radiant energy were presented by the New England Paint and Varnish Production Club. This work derived from reports of the phenomenon of the breaking of window glass painted with blackout coatings, and the method was described last year. In the new tests, heavier light power was applied, the measuring thermocouples being made of constantan and copper.

Twenty paints were tested comprising the nine colors covered by army engineers' specification T-1215. Data were compiled on (1) covering power of the paints, (2) spectral and infrared reflectance readings with the Hunter reflectrometer, (3) spectrophotometric curves by the G.E. spectrophotometer, (4) low incident readings of 85°, 75°, 60°, and 50° with the Thompson-Weinmann glossmeter, (5) light-transmission characteristics by the New Jersey Zinc Company photometer. Exposures were made in various parts of the country, from California to New England.

On the data obtained, the New England club's technical committee, headed by V. J. Babel, summarized the experimental results as follows:—

Insufficient data are available at the present time from the outdoor exposure tests to make definite conclusions on the paints. It is planned to make such data available when the tests are completed

The following observations and conclusions were made:—

1. The heat build-up in a paint on a windowpane or any surface is dependent upon the amount of radiant energy reflected, transmitted, or absorbed by the paint.
2. A high infrared-reflecting paint will absorb less radiant energy in the form of light that may be directed at it than will a low infrared-reflecting paint, thus the former remains cooler.
3. The ultimate temperature attained by a high infrared-reflecting paint is lower than that attained by a low infrared-reflecting paint.
4. The rate of temperature build-up, when a paint film is exposed to radiant energy, is lower with a high infrared-reflecting paint than it is with a low infrared-reflecting paint.
5. Thus the amount of strain developed in and underneath a painted surface is less when a high infrared-reflecting paint is used than when using a low infrared-reflecting paint. Thus the faster rate and the higher ultimate expansion both contribute to greater total strain and probable failure.
6. Windows with the glass painted black on the face away from the light show slower temperature build-up than if the paint has been on the face toward the light. The final temperature arrived at is practically the same, regardless of which side of the glass faces the light.
7. Metal surfaces show these same tendencies to develop a rapid increase in temperature as well as a higher ultimate temperature with lower infrared-reflectance painted surfaces.

Tests were run with many paints varying greatly in the degree of infrared-reflectance. To arrive at an optimum value of infrared-reflectance for painted surfaces to be formulated for good radiant energy reflectance involves many factors. High visible-reflectance values of paints aid in keeping the amount of radiant energy absorbed at a lower level. The low-visibility paints in demand at the present time require higher infrared readings to attain good radiant energy reflectance. Good, practical values for low-visibility paints would probably be above 40 percent infrared reflectance in the lighter colors and 45 percent infrared reflectance in the darker colors. This lower reading is estimated for the higher reflectance values in the visible part of the spectrum.

Army Specifications

Specifications are essential to the satisfactory procurement of paint and related supplies by army ordnance, said C. R. Cornthwaite, representing the Office of the Chief of Ordnance. The controlled materials plan makes this essentiality greater because of the necessity of having reliable and adequate data on what is going to be needed.

United States Army, Federal, and tentative specifications were explained by Mr. Cornthwaite, and he told how each series was prepared. Tentative specifications comprise the following groups:—

AXS—Office, Chief of Ordnance, Washington, D. C.
FXS—Frankford Arsenal, Philadelphia, Pa.
PXS—Picatinny Arsenal, Dover, N. J.
RIXS—Rock Island Arsenal, Rock Island, Ill.
SXS—Springfield Armory, Springfield, Mass.
WXS—Watertown Arsenal, Watertown, Mass.
WVXS—Watervliet Arsenal, Watervliet, N. Y.

The scope of United States Army specifications comprises eight sections, as follows:—

1. Section A. Applicable specifications. In this section are listed the specifications that are used in the manufacture, inspection and testing of the product specified. 2. Section B. Grade, type and class. This section lists the various grades, types or classes of product covered by the specification.

3. Section C. Material and workmanship. This section covers only those provisions for which specific tests normally are not specified and is used in some cases to instruct the manufacturer of the kind of materials that are to be used and precautions necessary in manufacturing the product, such as stating that the pigments used in the paint should be carefully chosen for their colorfastness and durability. Obviously, these are characteristics that can be determined only by actual outdoor exposure of the paint—a factor which cannot be determined in the laboratory but rather takes several months of exposure to determine.

4. Section D. General requirements. This section is used only when there is more than one type, grade or class included, and the requirement applies to

—*Continued on page 70*

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Paint, Varnish, Lacquer Materials

Paint Industry Hails Further Easing of Linseed Oil Tension By FDA's Modification of "Set-Aside" Commands

Disappointment registered in some quarters of the paint mixing industry over the refusal of the War Production Board to rescind its limitations on the amount of linseed oil permitted in the production of finished paints while insisting on continued use by all manner of consumers of bodied linseed oils, and disgruntlement over the Food Distribution Administration's reaffirmation of its restrictions on deliveries of this oil in any form to retailers and other users, have given way this past week to expressions of gratitude over an easing of FDA's previously imposed commandment to crushers of flaxseed and comparatively large holders of pure linseed oil to set aside nearly half their current output and to reserve a quarter of their inventories.

The additional relief from the tension until recently prevailing in the drying oils supply situation, which has thus been afforded by WFA's latest liberalizing of its originally drastic limitations on the trade's use of this principal drying oil, has followed shortly upon that bureau's issuance of an amendment to FDO 42, increasing the quota of these oils allotted to the industry from a previous 50 percent of average use in the base period, 1940-1941, to a present 60 percent.

This new FDA order, resignated as an amendment to FDO 65, has reduced the amount of the oil which must be set aside from current production from 45 percent to 25 percent and has terminated another requirement in that original order compelling holders of more than 240,000 pounds to reserve 25 percent of their inventories for war needs. Both these requirements had been in force since last June and had tied up large amounts of the oil, thereby depriving the industry and consumers of its use.

However, this easing of the "set-aside" requirements has come too late to be of assistance in swelling paint manufacturing operations in the fourth and concluding quarter of this year to the extent that had been counted upon to carry the 1943 volume of sales and profits to heights above those attained in the banner year 1941.

Price Changes

Advanced

Alphapinene, 2½c. per gal.
Rosin, gum, 5c. to 15c. per 100 lbs.
Turpentine, gum, 2½c. per gal.
Turpentine, s-d, 4c. per gal.

Reduced

Casein, imported, f.o.b. source, ½c. per lb.

Comparative Values

Index numbers compiled from ten typical paint and varnish materials on the basis of 100 for August 1, 1914, compare as follows:—

Last week.	Prev. week.	Last month.	Last year.
140.2	140.2	140.2	140.2

Market news that may have developed after this report was sent to press will be found on page 4.

Metallic Lead and Zinc

Domestic production continues to reach sizable proportions and, despite a slight lessening of importations, the available supply of pig lead is still ample for all requirements of the paint industry, although the War Production Board, desirous of maintaining a reserve of manpower, rather than larger surpluses of minerals, has recently denied premium prices in the "B" range to lead mines not already operating and also to those having a low labor productivity and located in areas in which there is serious shortage of labor. Quotations for pig lead have remained unaltered for the week October 22-29 at 6.35. per pound in St. Louis and 6.50c. in New York.

Zinc slabs continue in light supply, and likely to record a further tightening of their situation, even in the face of unabatedly liberal offerings of zinc ores and concentrates, as the federal government is no longer financing new zinc mining ad refining projects and the War Production Board has denied premium prices on the "B" and "C" ranges to zinc mines not already operating and to those having a low labor productivity and located in areas wherein a serious shortage of labor prevails. As hitherto, zinc pigment makers are able to obtain plenty of the ores but must have priorities to procure slabs. Prices of zinc slabs have stayed unchanged for the week October 22-29 at 8.25c. per pound in East St. Louis and 8.66c. in New York.

Pigments

Blue Lead.—Movement continues in large proportions, with that on war production account still outstripping that on civilian scores. Prices well maintained throughout.

Lead Titanate. — Buying on both military and civilian accounts continues extensive. Tone firm.

Litharge.—Extensive purchasing by government agencies is still noted, but civilian buying interest is also holding up well.

Lithopone. — Still moving fairly freely on orders from both war and non-military sources.

Orange Mineral.—Continues in fair request on all scores.

Red Lead.—In unabatedly keen call on all accounts.

Titanium Dioxide. — Demand continues to run well ahead of the current supply, with the result that deliveries cannot keep pace with the placing of orders. The proposed WPB order for regulating distribution is eagerly awaited.

White Lead. — Business brisk and movement expanding daily.

Zinc Oxides.—There has been no change in conditions previously reported as restricting operations in lead-free zinc oxides and as permitting unlimited business in leaded zinc oxides. Sizable transactions continue to be registered in American process oxides though French process material continues held down by the requirement for priorities for purchasing zinc slabs.

Fillers and Extenders

Asbestos.—A steady demand continues to be noted for both Canadian and domestic grades. Recent arrivals have included 1,446 bagfuls.

Barytes. — In moderate inquiry. Tone firm.

Chalk. — Fair buying interest still being manifested in this material.

Charcoal.—Suppliers, still awaiting an OPA order expected to establish price ceilings on softwood charcoal commensurate with those fixed five months ago on hardwood material, continue reluctant to sell at the prevailing GMPR price levels.

China Clay.—Continues in light inquiry but ample supply.

Diatomaceous Earth.—Moving only in routine fashion. Market steady.

Gypsum. — In moderate request. Tone firm.

Mica.—Waterground grades, especially pulverized types, are still in active demand from the paint trade. A fair-sized movement is also noted in dryground scrap mica. Additional arrivals of block and splittings, not used by the paint industry, have recently been recorded.

Talc.—Moderate buying interest still shown in this material.

Current prices on paint, varnish, and lacquer materials are given in the alphabetical list of prices begnning on page 9

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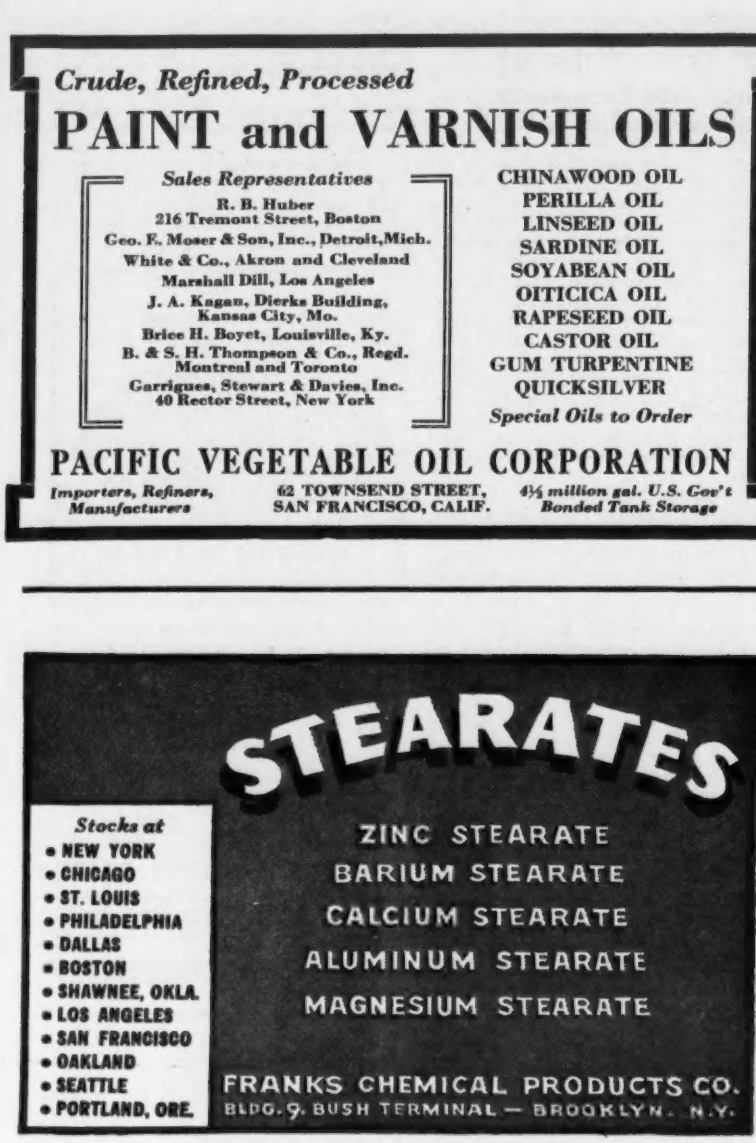

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Appearance clear and free from suspended matter when examined by transmitted light	yes	yes
Color water white when compared to distilled water	yes	yes
Odor characteristic and not noticeable after drying from filter paper	yes	yes
Specific Gravity at 20°/20° C	0.810 to 0.815	0.810 to 0.813
Solubility by weight in water at 20° C, **Maximum**	9%	9%
Distillation Range	Initial point, Minimum —112° C 10% Minimum —114° C 75% Minimum —116° C End point Maximum—119° C	100% between 115° C and 118° C
Acidity by weight as acetic acid, **Maximum**	0.03%	0.005%
Non-Volatile Matter, Maximum	0.005 gm per 100 ml	0.005 gm per 100 ml
Freedom from Water miscible without turbidity or separation with specific amount of gasoline	miscible with 19 volumes	miscible with 20 volumes

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Whiting.—Continues in fair inquiry. Market holding steady.

Driers and Flatteners

With the demand for driers becoming keener daily, many users who would like to employ naphthanates of cobalt, lead, zinc and manganese are finding the necessary delays in obtaining allocations rather irksome and are turning largely to tallates—or linoresinates, as these varieties are called in some quarters. There is also a brisk call for linoleates and an only slightly less active request for soyates as well as for sulphates, acetates and hydrates of cobalt, lead and manganese. It is generally believed that WPB may eventually relinquish its allocation control over naphthanates. Production of tungates has languished of late, although there is still a demand for the zinc description.

Chief among the flatteners and jellyfiers enjoying great popularity at this time are the stearates and palmitates. Some makers of stearates report having booked their capacity for several months ahead. There is likewise a fairly sizable movement of copper oleates and resinates, both of which are called for increasingly because of their waterproofing and fungicidal properties.

Dry Colors

Alkali Blue.—There is still a fair buying interest in this color.

Bone Blacks.—A steady movement of fair proportions is noted in these blacks. Tone strong.

Carbon Blacks.—In consequence of a steadily expanding demand for channel and lamp blacks from the paint trade and for furnace blacks from the makers of synthetic rubber, stocks of all carbon blacks, which had attained an unhealthy high level at the outset of this year, are showing a continuance of the shrinkage first registered five months ago. Prices well maintained throughout the list.

Graphite.—Continues moving steadily into consuming channels. Tone steady. Recent arrivals have included 3,000 bagfuls.

Chrome Colors.—Current production of chromium oxide green pigment continues to be distributed by means of WPB directives almost entirely to military uses of the most essential character. Navy procurement agencies are also the largest buyers of zinc chromate yellow, and the movement of chrome blues and yellows, although embracing some civilian buying accounts, is also made up principally of military account purchasing.

Lacquer Materials

Butyl Acetate.—Tankcar price of material produced by fermentation in Illinois and Indiana as of November 1 is 16.55c. per pound. November price in drums, car lots, is 17.55c. per pound; and in less car lots, 18.05c. per pound.

Butyl Alcohol.—As of November 1, tankcar price of material produced by fermentation in Illinois and Indiana is 16.80c. per pound. November price in drums, car lots, is 17.80c. per pound; and in less car lots, 18.30c. per pound.

Naval Stores

A firm tone continued to feature the primary naval stores situation last week. Most grades of rosin moved up to new high prices and a further rise occurred in turpentine. Business was quieter, some buyers being inclined to hold off after the steady advance in quotations recently, and await further developments. There was a steady contract movement of rosin into consuming channels in various industries, however, and sentiment in trade circles regarding the outlook was still rather optimistic. Daily offerings of rosin and turpentine in primary centers were light. The movement from the woods was still unusually small for this period of the year and the indications seemed to point to a continuation of the abnormally light

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marketing, owing to the unseasonably low temperatures prevailing in the South in recent weeks and the shortage of labor.

Turpentine.—Business in turpentine was rather quiet locally but the market was firmer, influenced by the strength of the primary center.

Savannah, Oct. 29.—Following is a record of the turpentine market for the week:—

	Bulk gallon Cents.	Sales.	Drums Receipts.	Drums Shipments.	On hand.
Saturday*	...	...	...	...	...
Monday	69	2,000	61	1	43,883
Tuesday	69½	5,600	115	261	43,737
Wednesday	70½	3,650	76	14	43,799
Thursday	70½	650	54	29	43,824
Friday	71½	2,650	152	...	43,476

* No trading.

Chicago, Oct. 29.—Turpentine offerings scarce. Five-drum lots, 82c. per gallon; five wood barrels, 87c.; single drums, 85c.; single barrels, 90c.

Rosin.—Local rosin prices were firmer in company with developments in the South. There was a fairly active demand here for all grades.

Savannah, Oct. 29.—Following is a record of the rosin market for the week:—

	Sat.*	Mon.	Tues.	Wed.	Thurs.	Fri.
	Price per 100 lbs. in drums—Low of range quoted					
B	...	$3.11	$3.11	$3.11	$3.11	$3.11
D	...	3.47	3.49	3.52	3.54	3.55
E	...	4.00	4.01	4.02	4.04	4.05
F	...	4.01	4.02	4.03	4.05	4.06
G	...	4.03	4.04	4.05	4.07	4.08
H	...	4.03	4.04	4.05	4.07	4.08
I	...	4.03	4.04	4.05	4.07	4.08
K	...	4.16	4.17	4.18	4.20	4.21
M	...	4.19	4.20	4.21	4.23	4.24
N	...	4.28	4.30	4.31	4.33	4.34
WG	...	4.92	4.95	4.95	4.95	5.10
WW	...	5.40	5.55	5.55	5.55	5.55
X	...	5.40	5.55	5.55	5.55	5.55
Sales	...	304	123	251	296	214
Receipts	...	76	304	307	229	164
Shipments	...	96	810	715	660	...
Stocks	...	...	...	...	...	57,563

* No trading.

Chicago, Oct. 29.—Rosin active. Five-drum lots, B grade, $4.86 per 100 pounds net; G grade, $5.50; M grade, $5.96; W.W. grade, $7.30.

Other Naval Stores

Pitch.—Consumption steady and liberal in war and civilian industries. Market firm.

Tar.—Output moving steadily into local and other consuming channels on contracts and new orders.

Tar Oil.—Inquiry continued good. Contract movement steady. Market tone firm.

Shellac

There is not much sense in talking about shellacs to the civilian user. There just is not enough for them and for the war program also. The civilian user must turn to substitutes and a number of satisfactory products are now on the market, though each of them is fit for some purposes and not for others. There is reason to believe that achievements of the laboratory will go far toward meeting the supply situation in which civilians find themselves. Adaptation of copals to the field of substitutes has gone far in this emergency and it is likely to go still farther.

Synthetic Resins

Buying by civilian users continues to grow as more liberal supplies of ester gum are becoming available with the recent freeing of castor oil for non-military use for the remainder of this year, and presumably for some time thereafter, up to the limits prescribed in FDO 42, and as more liberal allocations are made of phenolic and acrylic resin compounds, despite the recent imposition of new restrictions on the use of maleic resins, due to the tightening of the maleic acid situation.

A fairly comprehensive listing of synthetic resins appears at the end of Current Market Prices in the current issue of the REPORTER.

Varnish Gums

Asphalt. — Demand continues "spotty" with supply situation constantly tightening.

Copal.—Buying by varnish and resin emulsion paint makers still reaching sizable proportions.

Glues and Binders

Casein.—Although the bulk of recent additional arrivals of imported casein is being rapidly assimilated on WPB allocations, there is still such a plethora of offerings as to bring about a further weakening of the market for this material of foreign origin. Local importers and other suppliers are now quoting this imported casein on a basis of 9½c. to 10c. per pound, f.o.b. source, which is a half cent under previous quotations. Domestic production continues light but prices are well maintained at the OPA ceilings.

Glues. — Inadequacy of labor and raw materials are still combining to hold down production of both hide and bone glues.

—O-P-D—

Linseed Oil Supply Easing Indicated

—Continued from page 5

that portion of their future production which is not required to be set aside for offer to FDA. Under the original order, sale of any part of the production was forbidden until FDA had accepted or rejected the offer of 45 percent.

The amendment requires that new offers be made not earlier than the twenty-third day of the third month preceding production, and not later than the twenty-third of the month immediately preceding production. Hence, April offers cannot be made until January 23, 1944, and must be made before March 23, 1944. Offers will continue to be accepted or rejected within seven days, after which time the quantity not accepted may be sold through regular trade channels.

—O-P-D—

Paint Transport Permit Issuing Offices Listed

The National Paint, Varnish and Lacquer Association reports that applications for permits authorizing acceptance and transportation of 28-gauge drums loaded with paints and similar non-inflammable products under the terms of classification rule 49 may be addressed to either A. H. Greenly, chairman of the Official (Eastern) Classification Committee, 143 Liberty street, New York 6, N. Y.; E. H. Dulaney, chairman of the Southern Classification Committee, 101 Marietta street, Atlanta 3, Ga.; or to R. C. Fyfe, chairman of the Western Classification Committee, Union Station, Chicago 6, Ill.

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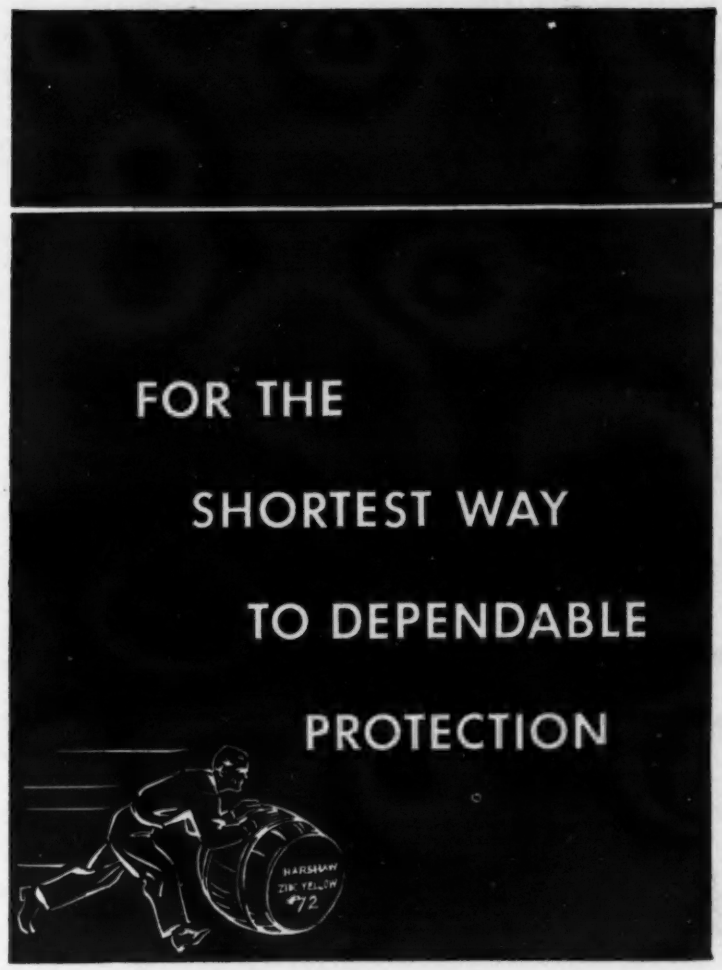

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Paint Technical Symposium

—*Continued from page 65*

more than one of the types, grades or classes. However, in the case of paints, this section is rarely used.

5. Section E. Detail requirements. Under this section are given the specific requirements of the particular types, grades or classes. As stated above, this distinction is not made in specifications for paint, and all requirements are listed in this section. The requirements are specified as nearly as practicable in the order in which a paint is examined as it is being tested. In this section only the specific test requirements are given, and the tests are described in the next section.

6. Section F. Method of sampling, inspection and tests. This section briefly describes the methods of sampling, inspection and testing to determine compliance with the requirements listed under section E. In the future, paint specifications issued by the Ordnance Department, will refer to the test methods covered by United States Army specification No. 3-1 whenever practicable and will contain no other description of tests.

7. Section G. Packaging, packing and marking. This section deals primarily with "stock phrases," and detail instructions for this section usually are given in the contract, order or invitation for bid.

8. Section H. Notes. Here information is given as to the application for which the material is intended. Any helpful information which does not form a part of the specification or cannot by implication be considered a requirement is included in this section. All United States Army specifications in Section H contain the clause "The use of this specification, whenever applicable, is mandatory on all procuring agencies of the Army."

Illustrative of the work involved in the formulation of a specification, Mr. Cornthwaite said, was the construction of the new color supplement to U.S.A. specification No. 3-1. Copies of this supplement were distributed. Its preparation had taken from October 13, 1942, to July 29, 1943. Mr. Cornthwaite concluded with an expression of appreciation for the helpful cooperation which the Ordnance Department had had from the paint industry.

Flight Deck Stains

The troubles of the Bureau of Ships of the Navy Department in trying to increase the life of flight decks on airplane carriers and other vessels were related by Lt. Henry H. Nelson, U.S.N.R. The heavy wear on the planking makes frequent renewal necessary; efforts to reduce the wear by means of preservative coatings have not been very successful, in spite of excellent work by the federation's technical advisory committee—John J. Bradley, jr., Dr. J. J. Mattiello, and Harry Feinberg getting special mention in that connection.

Tests have been made with coatings that can be brushed, sprayed or floated on the planking. These do not penetrate far enough because of the resistance of the side grain of the fir wood. End-grain block construction shows some promise of leading to better staining; it has other problems. Pretreatment of the planks has been tried. It works well but it adds too much to the weight of the deck (increase is 100 percent of weight of wood). Wetting agents have not given more than ¼-inch penetration.

Lieutenant Nelson reviewed briefly the work of several of the production clubs with phenolics and other brushing coats, none of which was satisfactory. It was his belief that the answer would be found in a change of deck construction.

Ship Maintenance

Lieutenant Nelson spoke also on problems of ship-maintenance painting. These start with the exposure of a vessel to strenuous atmospheric corrosive action during its construction. The painting must be done under all conditions; there can be no waiting for an optimum. The customary procedure affords some help, but special problems are the order of every day.

Steel is pretreated by pickling with sulphuric acid, treatment with phosphoric acid, and then with zinc chromate. Much is to be done in study of the properties of metal-priming paints, the speaker said, also in respect of protection against saltwater corrosion. Fundamentals are being studied in the laboratories of the Bureau of Ships. These include coatings for gasoline tanks which are water-ballasted and require resistance to high-octane gasoline and to saltwater; adhesion is a big problem. Better wearing boottopping paints also are sought. A gigantic problem is how to protect the hulls and the equipment of ships when they are laid up after the war. Paints then will be judged by durability rather than by the camouflage needs of war.

Painting of drinking-water tanks, especially in submarines, offers a variety of problems. Zinc-dust coating has been found good but further improvement is desired. Specification 52-P-41 works well; but it is ignited by torches in repair welding. Antifouling paints arrest corrosion, but the excessive corrosion under them is a big problem. Heating of steel surfaces before priming is beneficial, but this is futile on thick plate and too hazardous in the neighborhood of gasoline tanks in the interior of vessels.

A report of progress in the scholarship study of the adhesion of paint and other coating films to various surfaces was given with lantern slides of comparative data by R. L. Savage, federation fellow in the Case School of Applied Science.

Greetings from N.P.V.L.A.

War's demands for products and war's constrictions of materials were noted by George H. Priest, of the headquarters personnel of the National Paint, Varnish and Lacquer Association, who represented its president, Ernest T. Trigg, in extending greetings to the federation. The technical men of the industry have risen magnificently to the occasion, he said. Some of the services of the N.P.V.L.A. scientific sections were outlined, including its daily work on such things as low-visibility paints, camouflage coatings, external and internal coatings for food cans, canteens, gasoline tanks, water carriers.

Relations of the industry with governmental war agencies were recounted by Mr. Priest, with emphasis on the problems of manpower. He blamed the lack of knowledge of paint and its roles for much of the dissatisfaction. Economically, the industry is still in a relatively fortunate position.

Mr. Priest told about the paint at war exhibition, which the N.P.V.L.A. had arranged in Washington (see *OPD* for October 25, page 7).

President's Address

The reports of the officers and committees were presented at the session of the advisory committee. President Walter F. Kuster was prevented by an accident from attending. His official address was read by Vice-President Joseph J. Mattiello as follows:—

We have reached another milestone in federation history, and it is altogether fitting that we take time out to review our past activities, attempt to measure our progress, and chart our course for another year. There is no denying the fact that our way of living has been greatly changed by the war. This change is quite apparent in our federation activities.

During the past year considerable emphasis was again placed on the work of the technical advisory committee. The members were chosen in order to enlist the services of capable men and give a fairly wide representation. Chairman John Moore has directed the work of this committee in his usual efficient manner. I have met with them frequently in their monthly meetings at New York, Philadelphia, Boston, and Washington and observed firsthand the fine cooperative work which they have done with the various government branches. During the past three or four months the demands on this group for technical advisory service has lessened

—*Continued on page 75*

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Dyestuffs, Leather, and Textile Chemicals

Call for Textile Chemicals Continues Active—Tanstuffs Moving Slowly—Nutgalls Again Reduced

Textile chemicals were in good demand during the week, with no price changes being reported. Leather chemicals, however, continued quiet, with tanners still finding the hide supply none too large. The leather processors are also reported to have accumulated comfortable inventories of tanstuffs, and thus are buying for replacement only. A further shading of the price of Aleppo and Chinese nutgalls furnished the only development in the market.

Relaxation of most of the remaining restrictions on the use of wool, in view of the ample wool stocks on hand, were proposed October 23 by the woolen and worsted manufacturers' advisory committee of the War Production Board. In discussing the matter, it was thought that military purchases will slow up during the first half of 1944, and Navy requirements would remain at present levels in the immediate future unless unforeseen developments occur. Exports of wool from Argentina for the first eleven months of the wool year beginning October 1, 1942 totaled 163,637 bales compared with 247,830 bales the preceding year, according to the Department of Commerce.

As regards cotton, the first official estimate of the 1943 Egyptian crop is placed at 708,000 bales, which would be the smallest since 1895. The 1942 crop totaled 861,000 bales. United States cotton ginned from August 1 through October 18, 1943 is reported as 7,791,691 bales. During the same period in 1942, ginning amounted to 8,182,596 bales; and in 1941, to 6,857,015 bales. The Commodity Credit Corporation received reports through October 16 on a total of about 637,000 bales of 1943 crop cotton pledged on loans, against 253,000 through October 17 a year ago.

Price Changes

Advanced

None

Reduced

Nutgalls, Aleppo, 1c. per lb.
Chinese, 1c. per lb.

Comparative Values

Index numbers compiled from nineteen typical dyestuffs on the basis of 100 for August 1, 1914, compare as follows:—

Last week.	Prev. week.	Last month.	Last year.
267.7	268.5	271.9	261.5

Market news that may have developed after this report was sent to press will be found on page 4.

Chemicals

Aluminum Chloride.—Shipments at satisfactory rate to regular consumers keeping market tone steady.

Ammonia Bichromate. — Supplies continue light. Demand for essential uses being met with little delay. Prices firm.

Ammonia Sulphamate.—Demand for war materials maintains steady price structure.

Antimony Salts. — Quotations continue unchanged. Demand routine in nature but rather good.

Hydrogen Peroxide.—Supplies are rather tight. Textile industry calling for good amounts. Prices show no change.

Potash Biehromate.—Active demand keeping supplies tight. Market steady.

Soda Prussiate.—Demand from regular users characterized as rather good. Quotations steady.

Sulphonated Oils.—Turkey red oil supply situation continues easy. Other sulphonated oils tight. Price schedules show no change.

Dyestuffs

Annatto.—Market quiet. Inquiry of routine nature. Prices unchanged.

Fustic. — Moving fairly well into regular consuming channels. In comfortable supply. Quotations show no change.

Indigo.—Call for natural material very small. Prices unchanged.

Logwood. — Demand from regular users satisfactory. Quotations steady.

Sizing Materials

Albumen, Blood. — Active demand keeping supplies light. Quotations show no change.

Albumen, Egg.—Supplies remain below normal. Unfavorable price ceiling discouraging production of edible material. Technical materials production uncertain. Reported any new output of technical product will probably be more expensice. Market tone strong.

Corn Sugar.—Production continues to run slightly ahead of demand, gradually replenishing recently depleted working stocks. Quotations steady.

Dextrin, Corn.—Output runs somewhat behind orders on hand, because of more involved manufacturing process. Prices unchanged.

Egg Yolk.—Stocks were light. Market tone firm. Frozen egg production during September, 1943, was reported to have totaled 4,680,000 pounds, compared with 3,050,000 pounds in the same month of 1942, according to the Department of Agriculture. The amount of liquid egg produced for immediate consumption totaled 870,000 pounds, compared with 910,000 pounds a year ago. Output of dried eggs in September totaled 19,871,000 pounds, compared with 21,690,000 pounds in September, 1942.

The War Food Administration on October 22 revoked its food distribution order 41, which since March 25 has required all spray process dried whole egg production to be reserved for government purchase, and limited output of liquid and frozen eggs, and certain types of dried eggs to the quantities produced and sold for commercial use between February 1, 1942, through January 31, 1943.

Starch, Corn.—Production keeping ahead of demand, slowly rebuilding working inventories. Market tone steady. The visible supply of corn increased 1,185,000 bushels during the week ending October 23, according to data compiled by the Chicago Board of Trade. Maximum prices for sales of white corn at all levels of distribution in all parts of nine Western States were established October 25 by the Office of Price Administration. The newly established prices are in line with ceilings of white corn in other areas. The War Food Administration reported that on October 18 it bought 12,133,500 pounds of cornstarch.

Starch, Potato.—Arrivals from production areas continue ample. Prices steady.

Starch, Sweetpotato.—Delay in production pushes anticipated date of first new-season starch availability to end of November.

Starch, Tapioca. — Sizable arrivals in recent months have put supplies in comfortable position. Latest arrival from abroad reported to have totaled 23,399 bags. Prices steady.

Tanning Materials

Chestnut Bark Extract. — Supplies remain light, as producing plants continue to be hampered by lack of raw materials. Quotations show no change.

Divi-Divi.—Demand somewhat quiet. Tanners' operations continue to be curtailed by lack of hides. Sufficient stocks of tanstuffs are reported on hand in tanning plants to satisfy tanning requirements for several months. Prices steady.

Nutgalls.—Easy supply condition has shaded the price of both varieties

—*Continued on page 72*

Current prices on dyestuffs, textile and leather chemicals are given in the alphabetical list of prices beginning on page 9

WPB Textile Div. Head Named

OPD Washington Bureau

The resignation of Frank L. Walton as director of the Textile, Clothing and Leather Division, War Production Board, has been announced. He has succeeded James Spencer Love, of Greensboro, N. C.

—O-P-D—

A.T.C.C. Piedmont Section Meeting Nov. 5

The Piedmont Section of the American Association of Textile Chemists and Colorists will hold its annual meeting November 5, at Hotel Charlotte, Charlotte, N. C. Reservations for the banquet should be sent to Leland G. Atkins, Southern Dyestuff Corporation, Charlotte, N. C.

—O-P-D—

Textile Chemist Meeting Date in December Changed

The date of the meeting of the New York Section of the American Association of Textile Chemists and Colorists originally scheduled for December 10, 1943 has been changed to December 3, 1943. All meetings of the section this season will be held in the Downtown Athletic Club, this city.

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Hematine — Wattle — Tannic Acid
THE J. S. YOUNG COMPANY
Paterson, N. J. — Boston, Mass. — BALTIMORE, MD. — Philadelphia, Pa. — Chicago, Ill.

Textile Chemicals

Tanning Materials

—Continued from page 71

of nutgalls another cent. Aleppo material now quoted at 44c. to 45c. per pound, and Chinese material at 39c. to 40c. per pound.

Quebracho Extract.—Demand rather slow. Tanners holding tanstuffs inventories sufficient for several months' operations, which are below normal because of hide supply situation. Prices steady.

Wattle Bark.—Small tonnages of wattle bark which have arrived in this country in recent months are reported to have moved into the hands of extract makers with little delay. Quotations steady.

—O-P-D—

BUY MORE BONDS

Textile Paper Contest Won by Philadelphia

—Continued from page 4

dyes were made, and after light exposure and wash tests, spectrophotometric analyses, and actual mill applications it was found that for dyeings of 0.25 or less the minimum quantity of sodium bichromate to use is 0.125 to 0.3 percent, based on the weight of the material to be dyed. For heavier dyeings one quarter of the weight of the dyestuff is sufficient, provided that it is greater than the amount necessary for 0.25 percent dyeing. This results in a 50 percent saving of sodium bichromate.

The Northern New England presentation concerned proposed standards for light fastness, and the New York paper was entitled "A Study of Textile Fibers and Fabric Construction as Factors Influencing Adhesion of Textile-Plastic Combinations."

Oils, Fats, and Waxes

Linseed Oil Supplies Increased Through Changes in Government Controls—Hog Receipts Remain Heavy

Business in miscellaneous oils, fats and greases remained quiet last week. In certain instances a fairly active inquiry was noted for products which are usually in demand at this period, but as a rule purchasing was limited to small quantities, the attitude of buyers in not a few cases being a waiting one. The prevailing tone was firm. Although production in some lines has expanded recently following an increase in supplies of raw materials, there was no relief from the scarcity of spot and nearby offerings that has been so noticeable for many weeks past.

The linseed oil situation showed further improvement from the supply viewpoint as the result of a further easing of government controls on the operations of crushers. The order requiring importers of coconut, babassu and palm kernel oils to set aside part of their imports for war purposes was revoked, the order no longer being necessary because all imports are controlled by the government. Fatty acid inventories are now limited to a 60 days supply by a government order issued last week.

Receipts of live hogs in Western markets were heavy and considerably larger than at this time last year, but the tone of hog markets was steadier as bidding for supplies was active. Reports concerning menhaden and sardine fishing results were very unfavorable.

Price Changes

Advanced

None

Reduced

None

Comparative Values

Index numbers compiled from twenty-three typical oils, fats and greases on the basis of 100 for August 1, 1914, compare as follows:—

Last week.	Prev. week.	Last month.	Last year.
195.4	195.4	195.4	191.7

Market news that may have developed after this report was sent to press will be found on page 4.

Vegetable Oils

Castor, Dehydrated.—Consumption reported increasing. Contract movement steady. New business more active. Market firm.

Cottonseed.—Offerings of cooking and salad oils remain light and market quiet though inquiries numerous.

Oiticica.—Local situation unchanged, market still being under allocation control. Recent importations noted of 813 drums.

Olive.—Quiet in the absence of any increase in offerings. Quotations maintained. Portuguese olive oil production for 1943 estimated at 80,000,000 liters against 38,000,000 in 1942 and 100,250,000 in 1941.

Palm.—Quiet and nominal. Little available on spot. Nigerian palm kernel and palm oil production goals for this season set at 371,150 and 172,000 long tons, respectively.

Peanut.—Situation unchanged here and in primary centers, supplies still being inadequate for demand. Good harvesting weather reported recently in most of the peanut growing areas.

Soybean.—Local market quiet and steady. Movement of beans to oil mills still reported below expectations. Chicago reported an increase of 3,789,000 bushels in the visible supply of beans within a week.

Sunflower Seed.—Quiet and nominal locally in absence of offerings. Farmers in British East African territories are being asked to plant more sunflower seed in areas unsuitable for peanuts, it being hoped eventually to produce a surplus for export. The CCC issued contracts to cottonseed crushers for crushing 1943 crop soybeans.

Los Angeles, Oct. 27.—Vegetable oils quiet. Castor, prime cold pressed, 13.5c. per pound, tankcars. Cottonseed, bleachable, 14.15c. per pound, tankcars. Soybean, 12.65c. per pound, tankcars.

Chicago, Oct. 29.—Vegetable oils quiet. Corn oil, refined, edible, 15½c. to 15¾c. per pound, drums, car lots; 16c. to 16¼c., drums, less car lots. Soybean oil, crude, mills, 11¾c. per pound.

Flaxseed

Changes in flaxseed prices generally within narrow limits.

Minneapolis, Oct. 29.—Virtually all flaxseed arrivals the past week were absorbed on arrive contracts and demand for the free stuff was good. Weather conditions mainly were favorable for the finish of harvest and the boxcar supply was better, which accounted for an increase in terminal receipts. Most all of the flax came from the north and was of good quality. Trade in futures very limited and featureless. Country hedging pressure moderate to light and arrive offerings of cash seed indicated rather light farmer sales of flax. Stocks keep increasing.

The week's closing flaxseed price range was as follows:—

	Cash	Dec.	May
Saturday	$2.97	$2.97	$2.99
Monday	2.97	2.97¼	2.99¼
Tuesday	2.97	2.97	2.99
Wednesday	2.98	2.97	2.99
Thursday	3.00	3.01	3.00
Friday	3.00	3.01	3.02

Crop movement in bushels follows:—

	Receipts 1943	Receipts 1942	Shipments 1943	Shipments 1942
This week	708,000	351,800	25,000	72,100
Since Sept. 1	12,943,000	9,403,500	965,000	1,061,500

Buenos Aires, Oct. 29.—No flaxseed offerings. Rosario quotes $1.96¼ per bushel. Exports this week 165,000 bushels to the United States and 465,000 to the United Kingdom. Visible supply, 16,142,000 bushels.

Linseed Oil.—Local supplies light and market quiet and firm. Mills in Los Angeles permitted to charge the same ceiling as San Francisco mills owing to shortage in the flaxseed crop in southern California and Mexico, which made shipments of seed from Montana necessary.

Minneapolis, Oct. 29.—Linseed meal demand much heavier than supply. Shipping instructions liberal. Prices at ceiling.

Shipments of linseed meal in pounds were as follows:—

	1943	1942
This week	11,100,000	12,230,000
Since Sept. 1	97,240,000	92,490,000

Linseed Oil

The local market for linseed oil remained in a steady position in the absence of any wide changes in flaxseed quotations in primary markets. Business here lacked snap, but there were reports of a fair inquiry. Activity was still apparently limited in the main, however, to the forwarding of supplies on contracts previously placed. An order issued by WFA reduced the amount of linseed oil that must be set aside by crushers from current production from 45 percent to 25 percent and terminated the order which required holders of more than 240,000 pounds to reserve 25 percent of their inventories for war needs. The new order also liberalized sales provisions, permitting crushers to sell at any time that portion of their future production which is not required to be set aside for offer to FDA.

Minneapolis, Oct. 29.—Government buyers are taking their linseed oil quota right along and civilians are reaching for a lot more than they can get. Shipping instructions, government and civilian, prompt and all mills running at full tilt. Prices at ceiling.

Shipments of linseed oil in pounds were as follows:—

	1943	1942
This week	7,320,000	5,436,000
Since Sept. 1	59,440,000	43,636,000

Los Angeles, Oct. 27.—Linseed oil is quiet. Tanks, 14.5c. per pound.
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Cottonseed Oil

The market here for refined cottonseed oil futures continued stagnant in the absence of offerings. There was no material change in the situation in the South, where ceiling prices con-

Current prices on animal, vegetable, and fish oils, fats, and greases are given in the alphabetical list of prices beginning on page 9

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QPD—11-1-1943

tinued to prevail for crude oil. Offerings from the mills were still reported as scarce, with indications lacking of any change of consequence in the situation in this respect in the near future. The quantity of cotton ginned for the season to Ocober 18 was 7,791,691 bales, against 8,182,596 bales in the same time last season and 6,857,015 bales two years ago. Hog receipts were heavy and well ahead of last year, but the market at Chicago was steadier than recently as bidding for arrivals was active. The government announced the recent purchase of 500,000 pounds of shortening at 17 cents per pound. A recent importation was reported of 1,585 drums of cottonseed oil.

Prices as follows:—

	Cents per pound in tanks— High.	Low.	Close.
March	....	....	14.00@14.43
May	....	....	14.00@14.45
December	....	....	14.00 nom.

Cash oil, 13.95c. nom.
Crude, Southeast, 12½c.

Cake and Meal.—The primary situation continued to be featured by light offerings, an active inquiry and a firm tone.

Memphis, Oct. 29.—No change in oil situation. Mills continue selling sparingly. Seed receipts behind last year in this section. Cottonseed meal continues in tight position. Production going largely to truck trade and to fill old orders. Considerable tonnage of soybeans will be moved South from Northern sections to mills able to crush them. When this movement is fully underway, situation should be relieved. Tonnage of beans to be moved reported in neighborhood of 500,000 tons. Weather continues favorable for picking and ginning cotton.

Atlanta, Oct. 27.—Harvesting of oilseed crops is virtually complete; yields below early estimates. Ceiling prices for oil and meal are holding.

Fatty Acids

A steady movement of various products was reported on contracts and new orders. Quotations were generally well maintained and the ruling tone was firm. Fatty acid inventories, excluding fatty acids produced by the user, will be limited by a WFA order effective November 1 to a 60 days' supply in order to provide better distribution of available supplies.

Chicago, Oct. 29.—Fatty acids more active. Corn oil, double distilled, 14c. to 14½c. per pound, tankcar; cottonseed oil, double distilled, 14c. to 14½c. per pound, tankcar; cottonseed foots, 50 percent basis, 3¼c. to 3½c. per pound.

Fish Oils

Menhaden.—Local movement of refined oil apparently limited to comparatively small quantities to fill the current needs of consumers. Prices maintained.

Baltimore, Oct. 27.—Menhaden oil is scarce. Fishing in Chesapeake waters and to the North has ended. North Carolina factories are still waiting for the schools to appear.

Sardine.—Refined oil steady with a fair inquiry. A pilchard production plan was announced at Washington which provides a limit on the quantity of fish that may be brought into port by fishing vessels.

Los Angeles, Oct. 27.—For a period of a week not one ton of fish was turned in at any of the plants in the State, a report from the California Sardine Products Institute shows. The market is inactive. In southern California most of the oil appears to be going into the storage tanks for biological assay, and requests from soapers and others are going begging.

—Continued on page 75

—O-P-D—

Fatty Acid Inventories Limited by WFA Order

—Continued from page 5

If a user's present inventory exceeds the allowable quantity of fatty acids, he need not sell or otherwise dispose of his surplus, but he will not be permitted to accept further deliveries until his stocks fall below the prescribed limits. A user may accept delivery of 500 pounds or less of fatty acids during any calendar month, if his inventory during that month does not exceed 3,000 pounds. However, if he accepts more than 50 pounds per month, he is required to give the producer a written statement to the effect that his purchase is within the terms of the order.

A user may accept delivery of his usual maximum purchase unit of fatty acids if, at the time of acceptance, his inventory does not exceed one-sixth of the aggregate purchased and used by him during the base period (the first six months of 1943).

Present users who did not use fatty acids in their operations during the base period may apply for adjustment of their inventory quotas to the Director of Food Distribution, War Food Administration, Washington 25, D. C.

—O-P-D—

N.Y. Oil Trades Hold Annual Banquet

The Oil Trades Association of New York held its annual banquet last Tuesday evening at the Waldorf-Astoria hotel. About 500 were in attendance. Dinner was served at 8 p.m. and was preceded and followed by a social gathering. Entertainment consisted of an excellent vaudeville program.

—O-P-D—

Stanley Doggett, Inc. Expanding Operations

Serving the domestic paint and varnish industry for more than sixty-five years, Stanley Doggett, Inc., importer, manufacturer and distributor of pigments, colors, chemicals and mineral products, continues to expand the scope of its operations. Initially engaged chiefly in importing its materials, this house has widely extended its domestic production and marketing facilities until it now has plants and warehouses in several centers from which it services the trade in various parts of the country. Executive offices of the company are at 75 Varick street, this city. For the past score of years, the company's management has been conducted by Stanley H. Doggett and his brother, Howard H. Doggett.

—O-P-D—

Plastics Pool Formed By Three Companies

The Continental Can Company, the Swedlow Aeroplastic Corporation and Marco Chemicals, Inc., have jointly agreed to pool their combined knowledge and their production facilities so that airplane parts made from the new MR-type of synthetic resins will be available for army and navy planes to further aid the country's war effort. The raw materials for these resins are readily available in quantities sufficient to meet military needs. These resins are manufactured by Marco Chemicals, Inc., Sewaren, N. J. The companies will concentrate for the present on the production of laminated fiber-resin compositions made of paper, cotton cloth, glass cloth, asbestos and wood veneer.

—O-P-D—

Galvanizers to Meet

The Galvanizers Committee, which is sponsored by the American Zinc Institute, will hold a wartime conference at the William Penn hotel in Pittsburgh, Pa., November 17 and 18.

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BUY WAR SAVINGS STAMPS AND BONDS EVERY PAYDAY

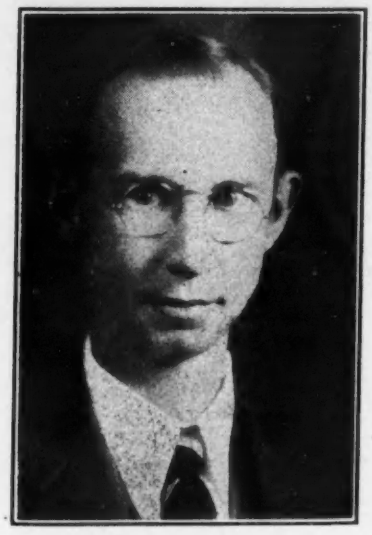
Paint Technical Symposium

—*Continued from page* 70

and this will require some decision by you on the direction of future activities of this committee. All of us can take pride in the contribution of this group of production men to the war effort and I wish to express our gratitude to John Moore and the entire committee for such fine service.

Technical Information Service

Acting on the advice of the federation advisory committee at the last annual meeting, a group was appointed to study the best method of reporting technical information from the technical advisory committee and other sources to the pro-



Walter F. Kuster
Retiring President, F.P.V.P.C.

duction clubs. Under the chairmanship of Carlton Rose, this technical information committee have rendered a very important service to the federation throughout the year. They have reported technical information through the Official Digest and Official Digest Technical Letter and they have served as a proofreading and editing body for technical symposium papers. The latter becomes a somewhat exacting procedure when dealing with papers and discussion presented by representatives of various branches of the government and armed forces. In doing this they have filled a definite need.

Mr. Ralph Everett has represented the federation on the scientific section committee. His annual report indicates the wide range of activities and services rendered by this National Paint, Varnish and Lacquer Association group as their contribution to the war effort. The publicity committee, headed by A. Montanye, has publicized federation and club activities in the trade journals. This phase of our work becomes increasingly important, in these days of gasoline rationing and limited transportation, to engender interest and stimulate club meeting attendance.

The report of our scholarship committee shows a further curtailment of activities due to lack of qualified students to engage in scholarship studies.

By-Law Revision

The by-laws committee have done a very important task this year. Honorary membership and contributing honorary membership have been subjects of heated arguments in federation meetings for some time. Recommendations, proposals, and counter-proposals have been made. Chairman Robert Smith and his group have patiently persevered until amendments to the constitution and by-laws were drafted which woudl fix the responsibility for such memberships and their privileges. These were sent out by our secretary in the form of a resolution to the clubs for their consideration. Final action will be taken on these proposed amendments at our annual federation meeting.

The federation technical symposium is another example of the impact of the war on our regular activities. Our second symposium was held in Cincinnati, Ohio, May 8, 1943. We followed a similar procedure to that of the one held in Pittsburgh, Pa., in October, 1942. We learned a number of things in the conduct of the Cincinnati meeting which we have found helpful in the arrangements for the Cleveland symposium. In former meetings we were hampered by a lack of time for discussion on an overcrowded program. The first part will be devoted to the club, scholarship, and technical advisory committee technical papers, and the second part will cover postwar materials and planning. Whether we have remedied the time factor remains to be seen. The wealth of interesting and helpful material to present, the many calls for space on the program, the earnest discussions, and

—*Continued on page* 90

Oils, Fats, and Waxes

—*Continued from page* 74

Fats and Greases

Grease. — Local supplies remain light and far below normal. Similar situation reported in outside markets. Inquiries numerous here.

Lard. — Inquiry for cash product fairly active. Offerings light. Market firm. Marketing of hogs in the West liberal. Government reported recent purchase of 330,000 pounds.

Tallow. — No change in situation here from supply and demand standpoint, offerings on spot being scarce while inquiries remain numerous. Firm at ceilings.

Animal Oils

Degras. — Inquiry active, common and neutral. Sales limited by allocation requirements. Market firm.

Neatsfoot.—Supplies light on spot and inadequate for demand, which continued active. Tone firm.

Waxes

Substantially good demand was current, but the stocks available after deliveries from recent large arrivals had been made were on the conservative side and much more business could have been done had stocks been more liberal in local stores. The entire wax market remained very firm and free from competitive influences.

—O-P-D—

Obituaries

M. Shuger

M. Shuger, founder of the Baltimore Paint and Color Company, Baltimore, died October 23, after a brief illness. He was sixty-two years of age. Surviving are his wife, a daughter and five sons, Albert A., Herman H., Julius O., Leroy W. and Herbert Shuger who are active in the business.

Thomas S. Doran, a sales executive for the Acme White Lead and Color Works, a subsidiary of Sherwin-Williams Company, died October 24 in New Rochelle, N. Y. He was sixty-one years of age. Surviving are his wife, and two sons.

Vern Dumas, pioneer Southern California oil man, died October 20. He was sixty-seven years of age.

Lieut. Col. Robert F. Morrison, president of the Hastings Pavement Company and a member of the board of directors of The Asphalt Institute, died in Scarsdale, N. Y., October 16.

Jessica Ogilvie, president of the Ogilvie Sisters Sales Corporation, hair preparations, this city, died October 22. She was fifty-eight years old and was one of seven sisters who developed the hair treatment business.

T. Karl Simmons, oil operator, of Tulsa, Okla., died in Fort Worth, Tex., October 26. He was sixty years of age.

—O-P-D—

Eagle-Picher Servicing Baltimore Area from Camden

Eagle-Picher Lead Company has temporarily discontinued its sales offices in Baltimore, until recently located at 359 Guilford avenue in that city, but will continue to service its customers in the Baltimore area from its Camden, N. J., warehouse. Ralph Miller, heretofore manager of the company's Baltimore branch for many years, has become affiliated with the Charles Bell Company, a roofing enterprise, Baltimore.

—O-P-D—

Titanium Firm Started in Cal.

General Titanium Corporation has been organized in Los Angeles county, with 2,500 shares of no-par value capital stcok. Directors are:—L. Mills Beam, 10535 Buford avenue, Inglewood, Calif.; Kenneth M. Fletcher, 6521 Pacific boulevard, Huntington Park, Calif.; and M. E. Allured, 1109 West Eighty-eighth street, Los Angeles.

—O-P-D—

Reliance Varnish Plant Explosion Kills Two

Two employees killed was the toll of an explosion in a basement lacquer products manufacturing department at the Reliance Varnish Company, Louisville, October 18.

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Drugs and Fine Chemicals

Quicksilver Output and Import Cutback for 1944—Camphor Up —Butyl Acetate and Alcohol Reduced

Price developments reported last week in the market for drugs and fine chemicals included an advance in prices for technical and U.S.P. synthetic camphor, and lower quotations on butyl acetate and butyl alcohol. These changes were effective today, November 1, and in each instance was the result of a shift in the cost of producing the products affected.

Other developments, but not in prices, was an order of the War Production Board issued October 27 and cutting back the 1944 production of domestic quicksilver, and the imports of foreign metal, to 70 percent of the 1943 output. This seemed to point to the favorable position of the national stockpile of this metal. It affected production for both private and government purchase. Another WPB order set the molasses quota for this quarter at 130% for vinegar and for foundry use at 110% of the corresponding quarter of 1942. There was substantial spot buying of quicksilver during the period under review, done on the basis of the recent decline.

Importations of castor beans brought the total arrivals since last January to a new all time high of 215,728,950 pounds. There were also landings of castor oil and teawaste, the latter particularly important to the makers of caffeine.

Demand for seasonal items has improved with the advance of Fall toward Winter. Codeine, ammonium chloride, acetanilide, acetylsalicylic acid, ephedrine, potash acetate, bromide and citrate, terpin hydrate—to mention a few of the many Winter items—moved in increased volume under expanding demand from manufacturing consumers and numerous distributors.

Acid, Gallic.—There is apparently a substantial stock of nutgalls in this country which can be had on relatively favorable price terms but the present prices is about 100 percent over that ruling before the war began.

Acid, Tartaric.—Arrival of new and probably large stocks of raw material awaited. If the cost be such as to make it possible, it could be that values will for once turn favorable for buyers. Many consumers have paid high prices in the open market when the need pressed and producers could not supply the goods required.

Alcohol.—Market subject to routine activity—which means that the consumption was large; that more and more is needed; that the supply situation on grains is not too encouraging as the government owned material decreases; and that there is every reason to expect complete absorption of any material that ultimately may be imported from adjacent countries. Higher excise taxes called for in Washington.

Butyl Acetate. — Prices established for November deliveries of fermentation material made in India and Illinois are lower by 35/100c. than October prices. Tanks, 16.55c. per pound; drums, carlots, 17.55c.; less car lots, 18.05c. Production understood to be mainly from old crop corn. New crop reported going into elevators.

Butyl Alcohol.—Prices lowered ½c. on fermentation material made in Illinois and Indiana. Tanks, 16.80c. per pound; drums, car lots, 17.80c.; less car lots, 18.30c. This schedule is being applied to production bought or to be bought in November.

Caffein. — Caffeine makers working from teawaste received 15,089 bags of that material. Demand and consumption for and of caffein runs so high that however much raw material arrives there is still not enough to permit the producers to create a substantial reserve of stocks. No imports of caffein lately.

Camphor. — Effective November 1, prices will be ½c. higher on both the technical and the U.S.P. grade. The schedule will be as follows: Technical, 10 barrel lots, 44c. per pound; 5 to 9 barrels, 44½c.; 1 to 4 barrels, 45½c; 25 pounds to 149 pounds. 47½c.; 1 to 24 pounds, 54½c; U.S.P., granular of powder, 2,000 pound lots, 68½c; 1,000 pound lots, 69½c.; smaller lots, 70½c.; tablets, 2,000 pound lots, 81½c.; 1,000 pound lots, 82½c.; smaller lots, 83½c. Advance related to rise in production costs.

Castor Oil.—With the sky the limit so far as selling is concerned, the market forges ahead backed by ample raw material, excellent productive capacity, and deep absorptive capabilities. Imports of beans continued. Arrivals totaling 4,400,400 pounds were noted and the total arrived since January 1 last has now reached 215,728,950 pounds. Imports of 8,683 drums noted.

Chicago, Oct. 27.—Castor oil prices are:—Cold pressed, U.S.P., returnable drums, car lots, 14½c. per pound; drums, less than car lots, 15¼c.; tanks, 13¾c.; No. 3, extracted, returnable drums, car lots, 14¼c. per pound; drums, less than car lots, 15c.; tanks, 13½c.

Codeine.—The route to the raw material country is now wide open and there is every reason to expect that sufficient will be forthcoming to meet the demand for derivatives. Seasonal rise in demand for sulphate and phosphate noted.

Fishliver Oils.—Buyers are able to absorb all production offered and they are taking their new stocks at ceiling levels for the most part. Production not too satisfactory.

Los Angeles, Oct. 27.—The vitamin oil market remained in the same position as in the previous week, with prices tight and livers hard to find. A new regulation of the government regarding a change in ceiling structure is being talked about in the trade.

Furfural.—OPA ceils tankcar prices at 9½c. per pound.

Glycerin. — Ample production was actual and in sight and it seems certain that all necessary requirements will be filled promptly. The fact that the country has so readily absorbed the goods imported as the result of government purchases made when scarcity of glycerin loomed is an argument for the present reasonable satisfactory position of the industry. Imports of 811 drums noted. The definition of glycerin in F.D. order No. 34 has been revised to comprise "any and all concentrations of glycerol, from whatever source desired and whether crude or refined."

Chicago, Oct. 27.—Demand for glycerin is holding up well, and tone of the market in general appears firm and stable. Prices for both chemically pure and high gravity are:—Tankcar, 18c. per pound, drums, car lots; 18¼c., drums, less car lots.

Iodine and Iodides.—Requirements of the armed forces, especially in the Far East, take substantially of current production, but there seems also to be enough production left for civilian requirements.

Mercurials. — The War Production Board has ordered a cutback in domestic production and imports of quicksilver for 1944 to about 70 per-

Current prices on drugs and fine chemicals are given in the alphabetical list of prices beginning on page 9

Price Changes

Advanced

Camphor, synthetic, technical, ½c. per lb.
USP, ½c. per lb.

Reduced

Butyl acetate, 35/100 c. per lb.
Butyl alcohol, ½c. per lb.

Comparative Values

Index numbers compiled from thirty-five typical drugs and fine chemicals on the basis of 100 for August 1, 1914, compare as follows:—

Last week.	Prev. week.	Last month.	Last year.
241.0	241.0	241.0	237.1

Market news that may have developed after this report was sent to press will be found on page 4.

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OPD—11-1-1943 77

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cent of the 1943 amount. This should not mean an adverse position for makers of raw material since the cutback is possible because of the favorable position of the nation's stockpile.

Molasses.—The molasses quota for this quarter for vinegar has been set at 130 percent, and for foundry use at 110 percent of the corresponding quarter of 1942.

Quicksilver.—Some fairly substantial business was done last week out of spot stocks and it was consummated on the basis of $195 per flask. The favorable position of the national stockpile of this metal is shown by a War Production Board order which cutsback domestic production and importations of quicksilver for 1944 for both private and government purchase to approximately 70 percent of the 1943 amount. The order was entered October 27.

San Francisco, October 27. — While there is practically no long-range buying interest, nevertheless there were reports last week of some improved purchasing for the spot and nearby. Possibly this was influenced by the knowledge that Winter will bring along some decrease in production.

Papaverine.—The manufacturer of synthetic papaverine states that he has a very definite statement from the Bureau of Narcotics, issued by direction of the commissioner, that the production, sale and export of synthetic papaverine is subject to all the provisions of the Federal narcotic laws and regulations, and transactions in synthetic papaverine are to be accounted for in the same manner as transactions in papaverine extracted directly from opium.

—O-P-D—

Merck Charged On E. Merck Pact

—Continued from page 3

Merck Statement

In the name of C. M. Anderson, executive assistant to the president, Merck & Co. issued the following statement October 28:—

The newspapers have informed us that Attorney-General Biddle has filed a civil complaint in the Federal courts alleging that Merck & Co., Inc., has entered into a cartel agreement with E. Merck Chemical Works of Darmstadt, Germany, to divide up world markets and to protect the German firm's South American markets during the war. The charge that Merck & Co., Inc., has ever made any such arrangement is utterly without foundation in fact.

In 1932 Merck & Co., Inc., and E. Merck entered into an agreement in which E. Merck recognized that Merck & Co., Inc., had the exclusive right to the name, "Merck," in the United States and Canada, and Merck Co., Inc., recognized that E. Merck had the exclusive right to use the name, "Merck," in substantially the rest of the world, with certain exceptions. This was not a cartel agreement in any sense of the word and it was not in violation of any law. It was entered into solely to avoid legal complications which might arise and which were arising from confusion of the two names.

The agreement did not make any division of markets and in fact there has been active competition between the two firms in many parts of the world. Our South American business has been conducted in such a way as to preserve the markets for ourselves rather than for any potential postwar competitor. The charge that we have conducted this business in the interest of E. Merck is the exact opposite of the truth.

Government's Version

It is specifically charged in the suit that Merck & Co. after World War I relinquished to the Darmstadt concern the large export business which the former had built up in Central and South America under the exigencies of the war.

With respect to the agreement on the use of the name, "Merck," the complaint alleges:—

In 1932, the two companies entered into understandings and agreements to divide world markets into exclusive areas, and as a device to conceal these arrangements they entered into a so-called "treaty agreement" on November 17, 1932, for a period of fifty years, the suit charges. The German and American Merck companies divided the use of the "Merck" trade-name and the sales of their products throughout the world. Under this arrangement, the right to sell exclusively in the United States and Canada was assigned to Merck & Co., which was also permitted to sell jointly with Merck of Darmstadt, in Cuba, the West Indies, and the Philippines. The rest of the world became the exclusive sales territory of the German company.

The civil suit asks the court to dissolve the 1932 "treaty agreement"; to cancel the exclusiveness of licenses to use certain patents of the German firm; to enjoin Merck & Co. from refusing to fill orders from established chemical and pharmaceutical dealers in foreign countries; and to enjoin the American firm from vesting any patent rights in the German company at any future time without first notifying the Attorney-General of its intention to make such patent transfer; and to prevent the parties from entering any similar agreements or arrangements.

—O-P-D—

Industrial Medicine To Be Discussed

—Continued from page 7

pational Disease." J. G. Townsend, M. D., medical director, chief, Division of Industrial Hygiene, U. S. Public Health Service, Bethesda, Md. Discussion opened by Frederick H. Shillito, M. D., medical director, Pan American Airways, LaGuardia Field, Jackson Heights, N. Y.

"To What Extent Can an Industrial Medical Department Contribute to Better Nutrition for Plant Personnel?" C. W. Hoffman, M. D., South Amboy, N. J. Discussion opened by E. P. Rochford.

"A Controlled Study of 'Vaccination' Against the Common Cold." J. E. Andes, M. D., director, University Health Service, School of Medicine, West Virginia University, Morgantown, W. Va. Discussion opened by S. H. Hinton, M. D.

"The Medico-Legal Aspects of Industrial Medicine." J. R. L. Johnson, Legal Department, Hercules Powder Company, Wilmington, Del.

—O-P-D—

Metal Cans Quotas Revised by WPB

—Continued from page 5

Other changes made in the order included the following:—

Cans of any size may hereafter be used for cements and dressings (limited to belting, furnace, linoleum, pipe joint, and radiator) while heretofore they were limited to one quart and one gallon sizes.

Lubricating greases may now be packed in one-pound, five-pound, 10-pound and 25-pound sizes. Previously they could be packed only in 10-pound and 25-pound sizes.

The quota of metal cans for printing inks was increased from 50 percent to 60 percent of the 1942 use.

Caustic soda was added to the list of products that may be packed in metal cans. It was given the same quota as lye, 100 percent of 1942 use in 13-ounce cans.

The can quota for shoe polish, leather dressing, and saddle soap was raised from 50 percent to 100 percent of 1942, with permission granted to furnish these cans with levers if previously used.

Soldering and welding fluxes were included with soldering pastes and boiler sealing compounds and given a quota of 100 percent for cans of any size.

—O-P-D—

Nutrition Research Names Oftedahl Purchasing Agent

Vernon D. Oftedahl has been appointed purchasing agent for Nutrition Research Laboratories, manufacturers of pharmaceutical products, Chicago. Mr. Oftedahl was formerly purchasing agent for the Kropp Forge Company.

—O-P-D—

Stanley T. Frame has joined the sales development department staff of the Continental Can Company, this city, as market analyst. He was previously associated with Swift & Co., Chicago, in a similar capacity.

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Navy Contracts Legislation Set

—Continued from page 3

tion now under consideration by the house committee on military affairs at the request of the War Department, covering contracts of the War Department.

Under the Vinson bill the government would be authorized to pay subcontractors directly or through the prime contractors, but would not hold the latter liable for excessive payments to the subcontractors. These would be refunded by the government to the prime contractor and held against the subcontractor as a government loan.

Provision is also made in the bill for loans by the Navy Department.

Another provision states that every disbursement made by the Navy pursuant to an agreement is to be final and conclusive and shall be allowed by the General Accounting Office, notwithstanding any other provision of law.

—O-P-D—

Chattanooga Medicine Company, Chattanooga, Tenn., has received the army-navy "E" production award.

Marginal Minerals Production Restricted

—Continued from page 3

mulations which would be costly both in dollars and manpower, it was stated. In this connection, it was added, arrangements have been made for reducing the government purchases of certain ferro-alloys minerals.

2. Premium prices in the "B" range have been denied to lead mines not already operating, and to lead mines having a low labor productivity and located in areas in which there is serious shortage of labor.

3. Premium prices in the "B" and "C" ranges have been denied to zinc mines not already operating, and to zinc mines having a low labor productivity and located in areas in which there is serious shortage of labor.

4. The government is not now financing new zinc projects.

5. It has been determined that no new government purchase contracts should be entered into for the import of chromite, vanadium and cobalt.

6. Operations in low-grade chrome mines in Montana are to be put in standby condition and labor is to be diverted to mines producing more critically needed minerals.

7. Contracts with the larger domestic graphite companies are to be cancelled; the mines of these companies are to be held in a state of readiness for the duration of the war and no more graphite is to be stocked by them.

8. Production of bauxite in Arkansas by the three major producers is being sharply cut.

The Board's action was based on three changed factors in the mineral production program; being increased mineral production, revised military requirements and a greater need for marginal manpower than for marginal minerals, it was explained.

The announcement added that the Mineral Resources Operating Committee is periodically reviewing each mineral to determine the supply rate that should be planned in order to meet requirements and stockpile objectives and administrative action will be taken from time to time on specific cases to meet these objectives and in keeping with the basic minerals and manpower policies of the government.

—O-P-D—

In Vitamins, Inc., Post

Dr. J. J. Nichols has been appointed executive director of Vitamins, Inc., Chicago, with offices in this city.

OPA Names Retail Druggist To Advisory Committee

OPD Washington Bureau

Carl Steidle, independent retail druggist and registered pharmacist, Cincinnati, O., has been appointed to serve on the Industry Advisory Committee on the Distribution of Drugs, Cosmetics and Health Supplies, the Office of Price Administration has announced. Mr. Steidle is a member of the executive council of the Cincinnati Academy of Pharmacy.

—O-P-D—

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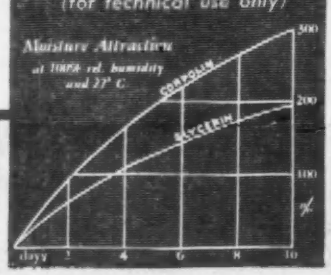

See this paper, issue of February 8, 1943, page 50
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Hydrastine Hydrochloride, N.F., Penick
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Hyoscine Hydrobromide, U.S.P., Penick
Hyoscine Hydrochloride, Penick
Hyoscyamine Alkaloid, Penick
Hyoscyamine Hydrobromide, U.S.P. X, Penick
Hyoscyamine Sulphate, Penick
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Pilocarpine Salicylate, Penick
Pilocarpine Sulphate, Penick
Podophyllin, N.F., Penick
Quinine
Quassin, Penick
Sanguinarine, Penick
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Sanguinarine Sulphate, Penick
Santonin, Penick
Saponin Depurated, Penick
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Scopolamine Hydrobromide, U.S.P., Penick
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Price Control on Domestic Botanicals Ended—Industry Pledges OPA Its Cooperation and Support

A botanical market of quiet, rather irregular consuming request was reported last week. The pending removal of price control over domestic botanical drugs failed to bring more than a moderate number of buyers to the market for the purpose of forestalling any advances that might be made when price control was to be removed. That was, perhaps, as it should have been, since the supply of most domestic botanicals has never been smaller nor has the chance for stocks being increased ever been poorer. Thus passed the last week of price control under the General Maximum Price Regulation. Such control ended October 28.

Market comment of an unofficial sort was that the removal of price control comes too late to do much good. Unless pickers, growers, diggers or gatherers have managed to accumulate stocks far larger than seems likely, removal of price control will do little to relieve the most important result of price control when it was in effect—and that result was curtailment of collection activities. Labor shortage in the areas of growth kept collections small regardless of prices which would have been paid and removal of control over dealers' prices won't create for them much additional stock for warehouse reserves.

Next year, collection may benefit from what has now been done too late by the Office of Price Administration. Meanwhile, the market is likely to continue short of supplies. It may also be said that removal of price control is not likely to result in any general advance of dealers' prices on domestic goods. OPA Administrator Prentiss M. Brown, now resigned, in his signed statement of the considerations involved in the issuance of amendment No. 32 to supplementary regulation No. 1 of the GMPR, said: "This action is taken with the approval of the Botanical Drug Industry Advisory Committee and as a result of voluntary agreements by the principal dealers to support the administrator's program and to cooperate with this office in all respects."

Balsams

Copaiba.—Demand of routine but steady character featured smaller quantities of merchandise last week and was met by very steady prices.

Fir.—No oversupply of this material was noted. Demand was good and prices had a fairly strong basis.

Barks

Black Haw.—Dealers do not expect to turn up much in the way of increased supplies in primary market hands. Collection was poor and the supply is likely to remain poor for this season.

Cascara Sagrada.—Not much demand was noted locally but the market held very firm in keeping with the primary market position. Slightly higher levels may result from removal of price control; all of the primary market advances have not been reflected in all quarters.

Cramp Bark.—No stocks. Firm orders unfilled.

Elm.—Reserves in the country are moderate and likely to remain so. It is doubted that collectors have held back much bark in anticipation of price control removal.

White Pine.—Although prices are free to advance, a rise now won't increase available stocks very much. Shortage in white pine compound seems inevitable for this season.

Beans

St. Ignatius.—Limited stocks in most quarters. Not much demand.

Vanilla.—Much of the recently landed 108 tons of Bourbon beans had been sold into consumption prior to arrival and the quantity left for stock purposes of dealers is relatively insignificant. Nor is it likely that more beans will be forwarded at an early date from the primary market. In fact, one of the unconfirmed reports concerning the recent shipment was that it had been possible solely because the armed forces had to supply a ship to bring stranded sailors back to this country. It is a nice sidelight on the recent arrival be it true or not.

Berries

Saw Palmetto.—Apparently supplied to the extent of present demand.

Price Changes

Drugs

Advanced

Aletris root, 35c. per lb.

Reduced

Althea root, 3c. per lb.
Papain, 15c. per lb.
St. John's bread, 8c. per lb.

Spices

Advanced

Allspice, Mexican, ½c. per lb.
Mustard seed, California brown, ½c. per lb.

Reduced

Anise, Mexican, 1½c. per lb.
Caraway, Syrian, dewhiskered, 2c. per lb.
natural, 1c. per lb.
Celery seed, Indian, ½c. per lb.
Ginger, Jamaica, No. 1, 3c. per lb.
Laurel leaves, Cyprus, ½c. per lb.
Mace, W. I., 1c. per lb.
Marjoram, Chilean, ½c. per lb.
Sage, Cyprus, good, ½c. per lb.

Comparative Values

Index numbers compiled from forty typical botanicals on the basis of 100 for August 1, 1914, compare as follows:—

Last week.	Prev. week.	Last month.	Last year.
267.9	265.2	264.1	257.5

Market news that may have developed after this report was sent to press will be found on page 4.

Flowers

Chamomile.—Federal interest in possible freezing of Argentine funds in this country may have meaning for importers of chamomile from that country.

Clover.—Elimination of price control comes rather late to affect stock position of the domestic item.

Elder.—Collection was poor and the fact that dealers have no price ceiling control on the domestic item won't aid in providing an ample supply this year.

Safflower.—Eventual arrival of replenishment supplies is expected. Way from primary market is open. Question of getting transport.

Saffron.—No change in firm market on Spanish flowers. Demand lags.

Gums

Arabic. — Plentifully stocked in practically all markets. Consumers hold excellent reserves along with dealers in similar position. Prices easy.

Asafetida.—Fairly competitive spot market reflects recent change in supply position on the spot. Not much call.

Myrrh.—Reserve apparently sufficient to cover current requirements. Prices show steady position at all points.

Mastic.—Last sales made around $5.50 per pound. Was odd lot turned back on the market by former consumer.

Herbs and Leaves

Belladonna.—Elimination of price ceiling brings no strengthening of spot prices on cultivated material. Market continues reasonably easy.

Current prices on botanical drugs, spices, and gums are given in the alphabetical list of prices beginning on page 9

CHECK YOUR NEEDS
OF HOPKINS' ANALYZED HIGH-STANDARD
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ASAFOETIDA N. F.
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COLOMBO ROOT N. F.
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BOLDO LEAVES
BORAGE FLOWERS
BUCHU LEAVES
CARAWAY SEED
CELERY SEED
CHAMOMILE FLOWERS
CHAULMOOGRA OIL
CLOVES, Zanzibar
COCILLANA BARK
COLOCYNTH PULP
COLOMBO ROOT
CORIANDER OIL AND SEED
CUMIN SEED
DANDELION ROOT
DILL SEED, Indian
ERGOT OF RYE
FENNEL SEED, Indian
FOENUGREEK SEED
GENTIAN ROOT
GINGER, Jamaica, Calicut
GRAINS OF PARADISE
GUM ARABIC AMBER SORTS
GUM KARAYA
HELLEBORE ROOT WHITE
HERBA HERNIARIÆ
HERBE MENTHE
HOREHOUND HERB
IRISH MOSS
JUNIPER BERRIES
KAMALA POWDER
LAUREL LEAVES
LAVENDER FLOWERS
LINDEN FLOWERS, with Leaves
MAHUANG, Chinese
MARJORAM LEAVES
NUX VOMICA
OAK MOSS
ORANGE OIL, Sweet
ORRIS ROOT
PEPPERMINT OIL
PIMENTO, Jamaica
POPPY SEED, Indian
PSYLLIUM SEED AND HUSKS
QUINCE SEED
RHUBARB ROOT
ROSEMARY LEAVES
ROSEMARY OIL
SAGE LEAVES
SARSAPARILLA ROOT
SAVIN OIL
SAVORY
SENNA LEAVES AND PODS
SESAME SEED, Hulled and Natural
STRAMONIUM LEAVES
STROPHANTHUS SEED
THYME LEAVES AND OIL
UVA URSA LEAVES
VALERIAN ROOT

AMINOPHYLLINE
BARBITAL
COD LIVER OIL, Medicinal and Poultry Grades
EPHEDRINE SALTS
GUM CAMPHOR, Japanese and Domestic
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STRYCHNINE SULFATE
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Chemicals by PRENTISS

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. . . SPERMACETI

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9 SO. CLINTON ST., CHICAGO 6, ILL.

Laurel.—Cyprus material shaded to 2c. to 28c. per pound. Other kinds generally steady in price. Demand light.

Marjoram.—California variety of French type material sells in limited way. Chilean material a fraction lower at 39c. to 40c. per pound.

Sage.—Good quality Cyprus cheaper at 27c. to 27½c. per pound. Spanish steady at less than ceiling prices.

Scullcap.—Firm orders in hand went unfilled last week for lack of stocks.

Thyme.—Spain sends a new variety of this article. Gold in color and pungent in odor as well as available at the reasonable price of 23½c. to 24c. per pound.

Miscellaneous

Balm of Gilead.—Not in over supply. Consumption has been good.

Ergot.—Apparently stocked in quantities more than sufficient for current requirements. Foreign prices reflect fair firmness.

Lycopodium.—Elimination of ceiling prices won't affect this material. Domestic article had already sold far above limits still prevalent on imported goods.

Papain.—Stocks continued to push for sale under competitive conditions and the market softened and then declined to $2.95 to $3.05 per pound.

Roots

Aletris.—Orders going unfilled as last of firmly offered spot stcoks moves into consumption around $1.25 per pound. Strictly nominal market caused by insufficient collections.

Blood.—The fact that dealers are not price-controlled now won't increase stocks of this article. The shortage is acute and orders go unfilled.

Echinacea.—Stocks exhausted. None known to be in the country. Firm orders passed by because dealers cannot get goods in primary market.

Helonias.—Position identical with that in echinacea and aletris roots. Purely nominal market. No replacement reported possible since none is held in the primary market.

Licorice.—Despite plentiful stocks and low prices, makers of licorice substitutes continue to build excellent business.

—Continued on page 85

—O-P-D—

Linseed Oil 'Frozen' Stocks Order Changed

OPD Washington Bureau

Jobbers, distributors, and crushers of linseed oil may now obtain, under certain circumstances, the release of stocks of raw and boiled oil which were owned not later than July 1, 1943, and in effect "frozen" with the issuance of order M-332, the War Production Board announced today. Retail stores were not affected by the freezing order.

In general, oil is being released at points where it is difficult or impossible to dispose of the product under terms of the order. Those who wish the release of stocks should file an appeal letter in triplicate, giving full details as to date of purchase and quantity on hand at each warehouse point. The appeal should be addressed to the Chemicals Division, War Production Board, Washington 25, D. C., Reference: M-332.

This action follows that of July 27, when an amendment of order M-332 on the disposition of stocks of raw and boiled linseed oil permitted a considerable quantity to move in the usual channels.

—O-P-D—

Ala. Bauxite Mining Started by 5 Firms

Following the discovery of important new reserves of bauxite in Alabama by the Bureau of Mines and the Geological Survey, five private companies already have begun commercial development of eight of the deposits, Secretary of the Interior Harold L. Ickes has announced. A total of thirty-three new bauxite deposits have been explored in the Eufaula district of Henry and Barbour counties in Alabama as a result of the expanded program of the two Interior Department agencies, the Secretary said, and additional reserves are being discovered nearly four times as fast as the bauxite is being mined.

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Calamus

HISTORY

A most ancient botanical. Used in India long before the Lord commanded Moses to put it into Tabernacle ointment. Of Tyre, Phoenician seaport, the Prophet Ezekiel said: "Bright iron, cassia, and calamus were in thy markets". Venician markets sold it in 1550.

Druggists in India were compelled by law to sell it at any hour of the night in 1813. Oriental in origin, it grows today in the world's temperate zones.

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It Is a Carminative and Tonic In Modern Medicine

BOTANICAL NAME	TEST	COMMON NAME
Acorus Calamus		Sweet Flag

Yields not less than 1.22 cc oil per 100 G, of drug.
Contains not more than 1% foreign organic matter.
Yields not more than 0.5% acid-insoluble ash.
Yields not more than 6% total ash.

FEA Personnel Appointed by Crowley

—Continued from page 7

Methods, Office of Personnel, Office of Finance, Office of Management Services.

The general counsel will be in charge of the Office of General Counsel and an assistant administrator will be in charge of each of the other offices.

Bureau of Supplies

The Bureau of Supplies will include:

(1) The Imports Procurement and Development Branch, which will be responsible for the procurement of supplies in foreign countries, the direction of developmental work, and the import of all goods into the United States. This branch will further be divided into several commodity divisions.

(2) Requirements and Supply Branch, which will be responsible for assembling and screening all foreign requirements, the presentation of requirements and claimancy before WPB and WFA, programming the export of Lend-Lease goods and controlling commercial exports. This branch will be organized into several commodity divisions.

(3) Commodities Services Branch, which will be composed of the Transportation and Storage Division, furnishing necessary services relating to commodities, and the Engineering Division furnishing engineering advice and services.

Bureau of Areas

The Bureau of Areas will coordinate the development of area programs, work with the State Department in obtaining policy determinations, relate programs to military plans, and assist the Administrator and Deputies in the direction of field operations. The Bureau of Areas will include:—

(1) Liberated Areas Branch, which will be responsible for the development of economic plans and operation plans on behalf of the United States, and will assist the military services and the United Nations Relief and Rehabilitation Administration.

(2) Enemy Areas Branch, which will include responsibility for programs and activities looking toward operations in enemy countries.

(3) General Areas Branch, which will be responsible for the development and coordination of programs and operations for all countries not included in liberated or enemy areas.

The list of appointments announced by Mr. Crowley to fill key staff and operating positions in Foreign Economic Administration follows:—

Staff Officers

Deputy administrators, Lauchlin Currie, acting, and Henry W. Riley; executive advisor to the administrator, Bernhard Knollenberg; special assistant to the administrator, John Carter Vincent, acting; general counsel, Oscar Cox; assistants to the administrator, John Pratt, William Griffin, Philip Young, Arthur B. Van Buskirk, John F. Dirks, acting; assistant administrators, economic program staff, V. Frank Coe; organization and methods, S. S. Sheppard, acting; personnel, (to be announced); finance, Leonard W. A'Hearn; management services, David B. Vaughan.

Operating Officers

Bureau of Supplies, director, William H. Schubart, acting; assistant director, requirements and supply branch (to be announced); assistant director, Imports Procurement and evelopment Branch, Sidney H. Scheuer; assistant director, Commodities Services Branch (to be announced).

Bureau of Areas, director, James L. McCamy; deputy director, Arthur Paul; assistant director, Liberated Areas Branch, Murray Latimer; assistant director, General Areas Branch, John Orchard; assistant director, Enemy Areas Branch, William T. Stone.

In addition to the above appointments, Mr. Crowley announced that he had been able to obtain on a part-time basis the service as consultants of Samuel Zemurray and Arthur Pollan, of United Fruit Company; Joseph D. McGoldrick, Comptroller of New York city, and Joseph M. Cunningham, First Deputy Comptroller of New York.

—O-P-D—

Lazo Leaves Exports Office

Leo T. Crowley, Administrator of Foreign Economic Administration, has announced the resignation of Hector Lazo as assistant director of the Office of Economic Warfare, in charge of its Office of Exports. Mr. Lazo's resignation, which was submitted early this month, will be effective November 1. He is resigning his government position to return to private business.

—O-P-D—

Botanical Drugs

—Continued on page 85

Seeds

Anise.—Stocks of Spanish seed in leading firsthands reported exhausted. Recleaned Mexican seed down to 27c. to 28c. per pound.

Caraway.—Syrian seed lower again. Natural noted at 44c. to 45c. per pound and the dewhiskered variety shows up at 52c. to 53c.

Celery.—Indian seed lower at 26½c. to 27c. per pound, which is in line with replacement cost.

Coriander.—Not a sign of even one definite and defined step having been taken and sure to start primary market stocks moving to this country. Government still all tied up in a knot as to the North African seed situation.

Mustard.—California brown rises to 20c. to 21c. per pound. Montana brown back in the market at 11½c. to 12c., or identical with the price for yellow. Stocks of most varieties reported light on the spot.

Spices

All spice.—After a period in which prices were usually on goods located at Laredo, Texas, a spot price of 22c. to 23c. per pound turned up last week.

Cinnamon.—An arrival of 2,444 pounds reported. Also reported sold completely prior to arrival at prices ranging 51.62c. to 54.62c. per pound, according to quality.

Clove.—Eventually something will probably be done about getting to this country some of the goods known to be stored now in the primary market.

Ginger.—No changes except that in No. 1 Jamaica, which was lower at 29c. to 30c. per pound

Mace.—West Indian material at New Orleans priced lower at 65c. to 66c. per pound. Little mace available on this market.

Pimento.—Steady with a spot quotation at 27c. to 27½c. per pound being reported very firm and backed by a not very large quantity of goods.

—O-P-D—

Door-to-Door Canvassers Tax Case in High Court

—Continued from page 3

lect a two percent tax on the proceeds of the companies from sales within the State.

Contending that the tax when so levied is a burden on interstate commerce and therefore a violation of the Constitution, the two companies successfully fought collection of the levy in the trial court and its decision was affirmed by the Arkansas Supreme Court. The Supreme Court of the United States decided October 25 to review the decision on appeal of the State commissioner.

—O-P-D—

American Firms Tieups Baring with Cartels Asked

—Continued from page 3

(e) A license, cross-license, or sublicense in or under any United States or foreign patent or patent application, or any United States or foreign registered trade-mark or trade-mark application; or any agreement to grant in the future any such license, cross-license, or sub-license; or an agreement not to sue for the infringement of any patent or registered trade-mark.

(f) Any assignment of (or of any interest in) any United States or foreign patent or patent application, or any United States or foreign registered trade-mark or trade-mark application.

When filed with the attorney general all such contracts are to be a matter of public record and open for inspection unless the attorney general shall, upon petition of one of the contracting parties, determine that disclosure would reveal trade secrets.

Officers and directors would be held personally responsible for any violations of the act by their corporation and subject to a maximum fine of $5,000 and one year imprisonment.

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GUM SHIRAZ
GUM KARAYA (Indian)
GUM TRAGACANTH
GUM EGYPTIAN
GUM LOCUST (Carob Flour)
QUINCE SEED

SPECIALTIES:
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CCC Issues Contracts For Crushing Soybeans

OPD Washington Bureau

Contracts were issued by the Commodity Credit Corporation October 27 to the cottonseed oil crushers for crushing the 1943 crop of soybeans.

Under the terms of the agreement CCC will purchase the soybeans and pay the freight on shipments to the mills and the processors will unload, store the beans and oil and pay the CCC 75 cents a bushel for the beans, plus or minus six-tenths cent per bushel for each one-tenth of one percent of oil content over or under 18 percent, and plus or minus 1 cent per bushel for each percent of moisture content under or over 14 percent.

After the crushing the mill will own title to the oil which the CCC agrees to purchase at one-eighth cent per pound under the ceiling prices established by the Office of Price Administration, while ownership of the meal or cracked cake will remain in the hands of the CCC and will be sold to the crushers at $44 per ton, bulk basis.

—O-P-D—

Teeth Decay Development By Chemicals Reviewed

OPD Washington Bureau

As a result of experiments conducted at the National Bureau of Standards, Department of Commerce, data have been accumulated showing the initial effects of chemical solutions and bacterial actions that may play important roles in the development of decay in human teeth. A method of study, new in its application to dental research, has been developed which is very searching and quite definite in its findings.

Objectional abrasives and dangerous chemicals in certain dentifrices were readily detected. The effects of a few solutions of sugars and different degrees of acidity of sugar solutions are shown. Sterile sugar solutions appeared to be harmless. However, these sterile solutions when inoculated with saliva quickly changed to acid solutions and vigorously attacked the surfaces of the teeth.

The authors make no recommendations on the selection of a dentifrice. When questioned on this subject they replied:—

Any dentifrice bearing the seal of acceptance of the Council on Dental Therapeutics of the American Dental Association or properly compounded from the ingredients (and of the grade) listed in the Federal specification for dentifrice should be safe and quite satisfactory.

A full report of the experiments will appear in the November issue of the Bureau's *Journal of Research*, also in the *Journal of the American Dental Association* of the same date.

—O-P-D—

Hydro-Magma Booklet Issued

"The Production of Milk of Magnesia and Pharmaceuticals from Hydro-Magma" is the title of a new booklet being distributed by Whittaker, Clark & Daniels, Inc., this city. The subject matter treats of the origin and manufacture of hydro-magma from sea water; the production process, equipment, formula and procedure for making milk of magnesia. This procedure is amplified by a technical report on tests, proportions, viscosity and control. Graphs and tables illustrate the various tests.

—O-P-D—

Corporation Earnings

Barber Asphalt Corporation

	1943	1942
3 months, Sept. 30....	$130,404	$5,358
Per share.....	.33	.01

Hancock Oil Co. of Calif.

3 months, Sept. 30....	265,353	150,820
Per share.....	*1.18	*.67

Hershey Chocolate Co.

3 months, Sept. 30....	1,477,797	1,248,937
Per share.....	1.69	1.56

Jones & Laughlin Steel

3 months, Sept. 30....	2,240,964	2,539,716
Per share.....	†.94	†1.49

National Refining Company

9 months, Sept. 30....	676,719	812,304
Per share.....	‡11.37	‡12.63

* On combined Class A and Class B shares.
† On shares outstanding at close of respective periods.
‡ On preferred stock.

Norwich Pharmacal Company

9 months, Sept. 30....	677,022	539,886
Per share.....	.85	.67

Phillips Petroleum Company

9 months, Sept. 30....	10,939,171	10,481,332
Per share.....	2.38	2.36

—O-P-D—

Salt Consumption Shows Sharp Increase on Coast

A consumption of more than 3,000,000 tons of rock and solar salt on the Pacific coast for 1943 is indicated in a report to be released shortly by the California State Mining Research Bureau, Alhambra, Calif. Increased chemical and industrial demands will consume 1,000,000 tons more than any previous year, the report says, and magnesium production, synthetic rubber and tremendous demand for water softeners are cause for great increase.

—O-P-D—

New Packing List Protector Replaces Critical Materials

A new-type packing list protector, fabricated from asphalt plyboard, has been developed by the Philip Carey Manufacturing Company, and is distributed nationally by the Western Paper Goods Company, manufacturers of waterproof envelopes, Cincinnati, Ohio. According to G. B. Johnston, manager of the Carey marketing division, the new protectors efficiently replace such critical materials as metal and plywood, at a fraction of their cost.

—O-P-D—

Minn.-St. Paul Paint Club Elects Officers

Minneapolis-St. Paul Paint, Varnish and Lacquer Association has elected the following officers:—President, Allen K. Adams, of the Western Paint & Varnish Company, Duluth; vice-president, I. I. Struble, of Forman, Ford & Co., Minneapolis; secretary, W. Holen, of the W. H. Barber Company, Minneapolis; treasurer, Homer McMahon, of the St. Paul White Lead & Oil Company, St. Paul.

—O-P-D—

DuPont Gets Another 'E'

The photo products department of E. I. du Pont de Nemours & Co. and its employees will receive the Army-Navy "E" awards for production achievement at a ceremony at Parlin, N. J., November 5.

—O-P-D—

BUY MORE BONDS

Trade Briefs

Randall Chemical Corporation has moved its offices to 2050 Eighty-eighth street, North Bergen, N. J.

Patten Foods Products Company, Chattanooga, Tenn., has received the army-navy "E" production award.

Centflor Company has changed its name to Centflor Manufacturing Company, and is located at 6 Varick street, this city.

Sulphur Bank quicksilver mine, Lake County, Calif., has been mapped by the Geological Survey, United States Department of the Interior.

Brownmill Laboratories, Inc., Brooklyn, has been formed with a capital of 200 shares no par value. Incorporators are Robert Brown, Boris Silvert and Janie Kalin.

Nox-Weed Chemical Company is the firm name under which George Z. Herman has published an intention to conduct business at 3257 East Slauson avenue, Vernon, Calif.

Robert F. Volentine, recently with the office of the Alien Property Custodian, has been named assistant foreign sales manager for the Schering Corporation, Bloomfield, N. J.

Perfect Formulas, Ltd., is the firm name under which Organic Laboratories, Inc. and Mildred H. Waters have published an intention to conduct business at 1406 South Grand avenue, Los Angeles, Calif.

Julius Levin, of the Three-Point Gage Company, Chicago, Ill., announces a new pocket size, three-point pipe gage for instantaneous measurement of all sizes of pipe from ⅛ in. to 12 in.

Universe Holding Corporation, this city, has been formed with a capital of 200 shares no par value, dealing in plastics, coatings, paints. Incorporators are Marion Talley, Carl Rachlin, John E. McCoy.

Tungsten Deposits Mapped

Tungsten deposits of the Cherry Creek district, White Pine county, Nev., has been mapped by the Geological Survey, United States Department of the Interior. Copies of the map may be obtained from the Director, Geological Survey. Washington.

—O-P-D—

Benzocaine Leaflet Issued

Seydel Chemical Company has issued a new leaflet describing the properties and applications of benzocaine. Copies may be obtained by writing to the company at 225 Mercer street, Jersey City, N. J., by mentioning the REPORTER.

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Essential Oils and Aromatic Chemicals

Wormseed Prices Burst Through Ceiling—Call for Peppermint Substitute Rises—Wormwood Scarce

Activity was excellent in the market for essential oils, aromatics, and substitute or replacement materials last week. As the stocks of natural oils get smaller—and replacement difficulties or impossibilities almost assure continued drop in reserve supplies—the interest in replacement merchandise grows. Activity along that line was vigorous throughout the period under review.

Pepperment will serve as an example. There was a large number of inquiries in the market last week for the fractions of peppermint distillation. Those who fabricate a peppermint oil replacement item find numbers of former consumers of peppermint investigating replacement materials. Since normal peppermint oil stocks are under allocation, there is every chance of continued increase in demand for replacement goods.

Wormseed and wormwood oils were higher on the week. Stocks have been low, and many dealers have not mentioned prices for publication for some time. In wormseed, GMPR ceilings have been breached. Both are so-called "farmer oils." Dill is another in that group, and seems to be the only one in which "farmer oil" classification has not meant high prices and scarcity. Spike lavender was cheaper. Stocks have risen and brought more competition to the market.

Current gossip had it that genuine caraway oil would bring $25 per pound, while pure, unsophisticated cassia oil would be worth at least $12 if available. There was also sharp cleavage in eucalyptus oil price views, with little available at minimum quotes. A widening market was reported for Canadian fir oil and also for spruce needle oils.

Price Changes

Advanced

Wormseed, $2.40 per lb.
Wormwood, 15c. per lb.

Reduced

Lavender, spike, $1.25 per lb.

Comparative Values

Index numbers compiled from twenty typical essential oils on the basis of 100 for August 1, 1914, compare as follows:—

Last week.	Prev. week.	Last month.	Last year.
253.6	246.9	247.0	281.6

Market news that may have developed after this report was sent to press will be found on page 4.

Essential Oils

Angelical.—Stocks exhausted. Market nominal.

Bois de Rose.—Item reported closely controlled in primary market. Seeming attempt to eliminate fluctuation of prices over substantial range as result of normal operation of the law of supply and demand. Plenty of oil believed in store at the source.

Caraway.—One important quarter declared that any genuine caraway oil would command fully as much as $25 per pound. Very little oil and fewer quotations obtainable locally.

Cassia.—Reported totally removed from spot stocks. One quarter said any unsophisticated U.S.P. oil would be worth at least $12.50 per pound.

Citronella.—No change in the reasonably easy position of Ceylon oil. Jana in purely nominal position with a quote noted at $2.50 per pound, that basis. Talk of a reversal of price trend in Ceylon material still just talk.

Dill.—Market exceptionally quiet. The present is the off-season for the article. This is one of the so-called "farmer oils" which was handled by the farmers in a way that kept prices comparatively low while deliveries were very good.

Eucalyptus.—Except for a single quarter on spot, this oil is believed to be capable of bringing at least $1.10 per pound for the 70-75% and around $1.15 for the 80-90%.

Geranium.—There may be plenty of oil in all primary markets but mighty little of it stands a chance of being transported to the spot at an early date. The replacement situation is as tight as ever, making spot oil very firm regardless of the fair demand.

Lavender.—Spike oil cheaper. Pure, $3.50 to $4 per pound. Technical, $2.50 to $2.75. Decline results from substantial increase in competition.

Lemon.—Situation little changed. Production should be excellent if quantity of fruit alone governed output. But labor—or lack of it—is a problem that holds production down and hence consumers are virtually getting oil under a voluntary rationing system among sellers.

Nutmeg.—Substitutes abound. Since no nutmegs arrive, none are distilled and the supply of natural oil is almost non-existent. Some of the substitutes are excellent and even the less desirable ones are finding a market.

Orange.—This oil springs up in the most unexpected of places. For example, a quarter featuring the sale of the fractions of distilling numerous natural materials come into the market with a U.S.P. cold pressed oil of orange. And also with a not U.S.P. oil which it offers at 90c. per pound despite the fact that some U.S.P. oil can be bought as low as 75c. There is plenty of good orange oil available all the way from 75c. to a top limit of $1.15. Of domestic oils, 75c. to $1 per pound is the market.

Pennyroyal.—Practically no domestic oil is available. Consumers dependent on imported material which sells well and holds firm.

Peppermint.—Allocation of stocks and very small supplies in the hands of spot dealers has crippled deliveries to old and new customers alike. This has caused demand for a peppermint substitute to sprout vigorously and the call for fractions of peppermint oil fractions has risen sharply. Fractions are held almost exclusively by distillers. The War Food Administration statement that certain large consumers of peppermint oil—those with sufficient inventories—have offered to stay out of the market for the balance of the year was interesting since large users were alleged in September to have paid farmers $7 per pound at the time when spot dealers could not sell natural oil above $5.50. It is now said that dealers' and producers' unsold stocks are 500,000 pounds. The Peppermint Users Advisory Committee is said to have estimated total needs at 1,250,000 pounds. If the large inventory users stay out of the market, the need is es imated reduced by about 450,000 pounds. The balance of 800,000 pounds estimated needs would have to be filled out of an estimated supply of 500,000 pounds. That is going to take some "doing" and it is small wonder that demand for substitutes made from peppermint distilla ion fractions is larger. It is also small wonder that spot dealers' interest in peppermint as an article of commerce has atrophied.

Petitgrain.—The scarcity of bois de rose is offset in some measure by the fairly plentiful spot and replacement stocks of petitgrain.

Pineneedle.—Substitutes get a play. Also, oils produced from American fir trees appear in the picture around $2 or $3 per pound.

Sage.—Clary sage reported around $28 per pound. Some normal Spanish material noted at about $4 per pound with the supply reported as fair.

Spearmint.—Nothing available under the ceiling of $4 per pound and not a great deal is to be had thereat.

Current prices on essential oils and aromatic chemicals are given in the alphabetical list of prices beginning on page 9

Chicagoans who buy Essential Oils for domestic and export markets see much of George and if volume of business and an expanding new customer list are any indication—THEY LIKE HIM. He's man Friday to Talmadge B. Tribble, MM&R's V.P. and General Manager of the Chicago Office.

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However, the pinch on supply is far less than that in peppermint.

Spruce Needle.—Finding a market around $3 per pound with demand and interest in the item having been on the upswing of late.

Wormseed.—This is another of those so-called "farmer oils" that dealers have had some cause to lay off of because of unceiled prices for the producer and ceilings for the dealer. Reported bringing around $5.50 per pound, though most dealers make no quotations. GMPR ceilings averaged $3.10.

Wormwood.—Held at $5 to $5.75 per pound as to dealer and in low supply so far as this market is concerned. The $5 is a GMPR ceiling.

Aromatic Chemicals

Acetophenone.—Firm and not overly plentiful under good request.

Anethol.—The supply was reported fair and prices were firm.

Anisic Aldehyde. — Moderately stocked and moving steadily.

Benzaldehyde. — Relatively scarce and strongly placed.

Benzyl Compounds.—All available in limited quantities only.

Coumarin.—Moving well, considering the amount available with dealers.

Ethyl Vanillin.—No surplus. Demands hold at excellent levels.

Eugenol.—Available in most quarters but far from substantial supply.

—O-P-D—

Evans Chemetics Leases Space in Brooklyn

Evans Chemetics, Inc., has leased 22,000 square feet of space in the Long Island University building at 300 Pearl street, Brooklyn. This will be used by the company in addition to its present facilities in the Port Authority building, this city, and at Waterloo, N. Y.

—O-P-D—

Cellulose Acetate For Lipstick Discussed

Approximately 400 members of the industry attended the all-industry luncheon-meeting sponsored by the Toilet Goods Association, held at the Waldorf-Astoria hotel, October 26. C. A. Willard, deputy chief of the cosmetics and toiletries section, Chemicals Branch of the War Production Board, and P. R. Casey, head of the cosmetics unit, Chemicals and Drugs Price Branch of the Office of Price Administration, were guests.

Mr. Willard reported that the possibility of allocation of cellulose acetate for lipstick manufacture was somewhat brighter and that a reasonable quantity would probably be allocated during the month of November. Mr. Casey stated that delays in securing approval of prices under MPR 393 were often caused by failure of applicants to fill out the proper form correctly.

—O-P-D—

Libbey-Owens-Ford Names Johns to Sales Post

J. M. Johns has been appointed general manager of industrial sales of Libbey-Owens-Ford Glass Company, Toledo. He succeeds the late G. L. Conley.

—O-P-D—

Theile Convalescing

F. C. Theile, president of P. R. Dreyer, Inc., this city, after nine weeks' illness, has left the hospital and has returned to his home for recuperation.

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Petroleum Derivatives

Output of Derivatives Still Held Down by War Drain on Crude Oil—Heavy Bunker Oil Price Cut

Despite a notable increase in the Eastward movement of crude petroleum from the oilfields of the Southwest through greatly amplified pipeline flows and a gradual restoration of tankship transportation from Gulf ports, the supply situation in crude oil available for conversion into derivatives designed for civilian use is still falling far short of requirements, especially for the making of numerous petroleum solvents, liquefied gases, paraffins and mineral oils.

It had been hoped by independent refiners on the Atlantic seaboard that the growing shipments by sea routes, which have sequelled the waning of the enemy submarine menace, would tend to relieve this shortage in crude oil procurable by them. But it is now known that a majority of the tankers formerly used in this service are being utilized in convoy duty to actual war zones, and although such movements as are now being made into the Eastern area by tankers are slowly mounting and already constitute 14 percent of all oil moving into this coastal region, they are being used chiefly to aid in meeting the enormous military requirements in aviation gasoline, synthetic rubber and lubricants.

Thus, with war needs climbing daily to still greater heights, there is serious danger of a reduction of crude oil reserves to an extent that threatens to become truly alarming, unless there is a substantial increase in the present comparatively high rate of domestic production, accompanied by a notable further amplification of imports from Mexico, the Caribbean and Venezuela, or a more extensive production and use in the European war operations of crude oil obtained in fields overseas.

Price Changes

Advanced

Gasoline, 78 octane, tanks, Group 3, ½c. per gal.
Liquefied petroleum gas, Alcorn County, Miss., 2c. per gal.

Reduced

Bunker fuel oil, 16-19.9 gravity, 12c. per bbl.

Market news that may have developed after this report was sent to press will be found on page 4.

Solvents and Diluents

Aromatic Solvents.—The new replacement xylene compound, consisting of 75 percent xylol fractions and 25 percent toluol fractions, which the War Production Board has authorized for use in making the high-solvency aromatic naphthas, is proving generally satisfactory, although the cost of this newly derived and substituted basic material is slightly higher than that of xylene. The demand for both allocated and unallocated grades of these solvents continues unabated. The aliphatics are also in moderately keen request.

Cleaners' Naphtha. — Aside from adding to the work of suppliers by compelling them to make reports on all sales, PAW's naphtha distribution order No. 18 has not proved a disturbing influence. The only bulk consumers who might conceivably be adversely affected by the 125 percent quota provisions of this order are those who were not users of this naphtha during the base calendar quarter corresponding to the new quota period or those who were by no means as extensive users then as at present. And even such consumers may appeal to the director and obtain relief if they can show that compliance would work exceptional and unreasonable hardship.

Lacquer Diluent. — In continued brisk call. Situation of suppliers and consumers of this material insofar as PAW's distribution order No. 18 is concerned, is identical with that prevailing in cleaners' naphtha.

Mineral Spirit.—Buying movement continues heavy on both military and civilian accounts. This paint thinning agent is unaffected by PAW's order No. 18 save to the same extent as the above commodities.

Rubber Solvent.—Synthetic rubber producers are still the largest consumers of this solvent. PAW's order No. 18 is without effect upon operations in this material except to the extent previously mentioned.

Stoddard Solvent. — Continues in active inquiry by both military and civilian consumers. Unaffected by PAW's order No. 18 save as reported for other materials in this group.

V. M. & P. Naphtha.—With demand from the paint trade running high, this solvent is virtually unaffected by PAW's distribution order No. 18, except as mentioned in preceding paragraphs.

Markets at Other Centers

Chicago, Oct. 29.—Unrestricted in their legitimate movements by PAW's naphtha use limitation order No. 18, all the principal petroleum solvents and diluents continue in brisk call in this area, with the paint and dry cleaning industries absorbing virtually all offerings and with prices firmly held throughout the list.

Los Angeles, Oct. 29.—Aside from raising the cost of the basic material employed in making the high solvency aromatics and imposing added "paper work" on suppliers of various naphthas, recent directives and orders of WPB and PAW have had little effect on operations in petroleum solvents and diluents on the Pacific Coast. Market holding active and strong.

Tulsa, Oct. 29.—With the unabated diversion of refinery capacities to the making of high-octane gasoline, production of petroleum solvents and diluents is necessarily still limited, with all offerings being quickly snapped up at unchanged prices.

Lighter Fractions

Butane.—War requirements in aviation gasoline are taking the lion's share of current production and supplies of this liquefied gas, with all remaining stocks being absorbed avidly by private industrial and home-heating consumers. OPA has effected an advance in the retail maximum price of liquefied petroleum gas in Alcorn County, Miss., for heating and cooking purposes, amounting to 2 cents per gallon and making the revised quotation 12c.

Heptane.—Still moving in moderate volume. Market strong.

Hexane.—Unabated inquiry noted. Tone firm.

Octanes. — Purchasing movement steadily expanding. Prices steady.

Pentanes.—War production contractors continue the largest purchasers but there is also an unabated demand from civilian consumers. Tone stable.

Propane.—Continues moving steadily into war production channels, with lit.le available for civilian usage. Market holding strong.

Petrolatums and Waxes

Amorphous Waxes.—Continue moving steadily into consuming channels. Market holding strong.

Paraffin. — Unrelieved shortage of both crude scale and the fully-refined grades still characterizes the market for these petroleum waxes, with melting points higher than 133-135 degrees A.M.P. virtually unobtainable. Demand continues keen but mostly unsatisfied.

Petrolatums. — U.S.P., veterinarian and technical grades continue moving in fair volume at the prices reached in the July markup.

White Mineral Oils. — Both U.S.P.

—Continued on page 90

Association Meetings:—

American Petroleum Institute, Palmer House, Chicago, November 8 to 11.

Current prices on petroleum derivatives are given in the alphabetical list of prices beginning on page 9

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Paint Technical Symposium

—*Continued from page 75*

the interest with which they are attended, all attest to the popularity of this type of meeting.

Technical Programs

The duties of the program committee chairman are strenuous in normal times, but with the substitution of semiannual symposiums for an annual convention, Mr. John Bradley, jr., has had full opportunity to learn of the many difficulties which beset the occupant of this important post. The success of these technical symposiums are a tribute to his organizational ability. I wish to express our gratitude to Mr. Bradley for rendering the federation this service.

It gives me pleasure to report the addition of a new club to the federation this year. The Houston Paint and Varnish Production Club passed through the various stages of organizational procedure during the Spring and Summer months and were unanimously voted into full membership by a letter ballot of the executive committee in June. The new club is composed of twenty-one active members. Our Mr. John Moore was delegated to visit with the Houston club in September and explain in detail the workings of the federation and its committees and answer any questions they might have. He returned with a glowing account of meeting with a group of enthusiastic, livewire production men. We are proud to welcome them into the federation.

The plant manager's committee under the dynamic leadership of Joe Mattiello has carried on a program of stimulating interest in the clubs to meet and discuss wartime problems. The members of some individual clubs have cooperated with each other in committee work on such items as government specification and interpretation of government directives. One of the finest examples of an individual club service to its members is that of the oil conservation symposium held by the Philadelphia production club. It was so well conceived and presented that it was used later as a basis for that portion of our Cincinnati symposium. It is the purpose and responsibility of the paint managers committee to promote and encourage such club activities.

For a review of the financial condition of the federation, I shall refer you to the annual report of our treasurer, Paul Blackmore. We have attempted to effect the economies recommended by our executive committee in their annual meeting last year. The resulting savings have been insufficient to offset the loss in our income due to the curtailed program we have been following. It has been difficult to maintain and improve the quality of our services to the membership with limited expenditures of money.

I feel deeply indebted to our secretary, George Heckel, jr., for the aid and advice he has given throughout the year. I want to extend my thanks in appreciation of his services in the negotiations with the Houston club and its final adoption within the ranks of the federation and for his friendly cooperation in the planning of programs and reporting our meetings.

In line with the executive committee recommendations, the visiting of clubs has been somewhat curtailed. I had the pleasure of meeting with the Western New York, Philadelphia, C.D.I.C., and New England clubs, and we are now enjoying the hospitality of the Cleveland club. I have been impressed and inspired by the enthusiasm and fine spirit of cooperation shown among the clubs of the federation. Club attendance has maintained remarkably good levels in spite of transportation handicaps. Total federation membership has shown a slight increase, and club technical committee work has progressed. There is due cause for optimism as we look beyond the milestone into another year. The past year has been one rich in experience and friendships. I wish to thank the many fine men who have helped to make it so. I am proud of the honor to have served you, and I thank you for the confidence you had in me during a rather uncertain period in our lives.

Secretary's Report

The following report was presented by George B. Heckel as secretary of the federation:—

Despite the natural inconveniences imposed by a nation at war and the consequent heavy burden upon our time and energies, your secretary is pleased to report that your federation has functioned with increased efficiency since our annual meeting and conference in Pittsburgh last October. This is evidenced not only by the continued, frequent meetings of the technical advisory groups, under Chairman John P. Moore, but also by the technical symposium on oil conservation, sponsored by the Philadelphia production club in March, followed in May by a midyear technical symposium of the federation devoted to this subject, as well as to the various army and navy and government specifications, held at Cincinnati, Ohio, under the chairmanship of our very competent and over-obliging John J. Bradley, jr.

As the result of a decision made at the midyear executive committee meeting in Buffalo last March, our federation succeeded in obtaining the exhaustive treatise on infrared reflectance, based on the work of H. A. Endres and Vincent Vesce, and their collaborators, publication of which comprised the entire issue of the Official Digest for June, 1943. It is hoped and believed that the extra cost of this issue will be justified by the interest and importance evidenced in this fundamental subject.

Although it has not yet been considered feasible to hold a full-scale convention or paint show exhibit, your advisory committee at its March meeting recognized the importance of being prepared for this eventuality, by setting up the necessary machinery should a favorable opportunity present itself. However, the very interesting and inclusive program presented here in Cleveland is the best evidence of our federation's technical scope and resourcefulness, and too much cannot be said in praise of those who cooperated so splendidly with Chairman Bradley to make this program possible.

Another noteworthy event was the formation of a new production club at Houston, Texas, last April, which was subsequently admitted as the twenty-third constituent member of the federation, and promises to be one of our most active and useful groups.

As you know, the February issue of the Official Digest included a complete list of the officers, as well as committees and their personnel, although this year, as a further measure of economy, the June issue of the Official Digest did not, as usual, include a complete membership list. We hope, however, to resume publication of this useful directory next year.

George B. Heckel
Re-elected F.P.V.P.C. Secretary

Notwithstanding the natural drain on our membership during the present emergency, the federation has more than held its own in this respect, as evidenced by the following count:—Total active members, 1,541, an increase of six during the past year; associate, 53, an increase of two, subscribers to the Official Digest, 258, an increase of twenty-five.

Your secretary, in closing, would like to express his thanks for the constant cooperation he has received from executives and members alike and to ask your continued support.

Tribute paid to the direct war service of the paint technician in the designing of specifications and the supervising of research and process for the production of coatings for specific war uses was noted by John C. Moore, chairman of the technical advisory committee during the past year. Equal recognition, he said, was well merited by the production man in his every day functioning, and Mr. Moore went on to recite a day's experiences of a typical production man with customers in civilian life and those who inspect and reject for the armed forces.

The philosophy of the production man, said Mr. Moore, is:—"The right paint must be produced." Time and troubles are the expected with him; he strives to keep them from others. He is, the speaker concluded, the mainspring in the synchronized mechanism supplying coatings for the war effort.

Technical Advisory Functioning

As chairman of the technical advisory committee Mr. Moore reported as follows to the advisory committee of the federation at its session October 22:—

The technical advisory committee of our federation has been less active on direct defense work since we last reported in March of this year.

We contributed to the federation May symposium, held in Cincinnati, reporting some results that were of definite interest on some of the problems under consideration and to the general federation membership.

During this period, our contribution to the army engineers has been purely advisory as they have not given us additional problems. Your chairman has been assured by Captain Van Heuckeroth that they now have a large fully equipped laboratory with proper technical force to conduct most of their research and experimental work involved in improving present coatings or designing new ones.

The committee activities have primarily centralized around contribution to the Bureau of Ships and OCD.

Project 21, Aircraft Carrier Flight Deck Stain

Through the combined efforts of committees from New England, Philadelphia and Baltimore clubs, a thorough analysis of this problem was made. The data were discussed with Lt. Nelson and a final report written by Francis Scofield has been rendered. Separate parts of his report was written by Harry Feinberg, of the Baltimore club; Jack Bradley, of the New England club, and Bob Matlack, of the Philadelphia club. The details, we believe, will be given at our symposium by Lt. Nelson. When first presented to the Bureau of Ships the information included therein was not available for publication. The men mentioned above deserve our special thanks for organizing separate, their club committees, thoroughly investigating the problem and writing such an inclusive report.

Project 22

We were asked by Lt. Aldrich of the Bureau of Ships to test a series of paints for their relative application characteristics. There were two type zinc chromate primers meeting specification 52-P-18 and two inside semigloss white paints meeting specification 52-P-22. The difference between the two primers and two top coats was the type paint thinner used. We asked the Southern Paint and Varnish Production Club to conduct this investigation and through the able direction of Ray Perry the tests were conducted and reports rendered shortly after receipt of samples from the navy. We and cooperating tests have received a letter of thanks from Lt. Aldrich.

John C. Moore
Chairman, Technical Advisory Committee

Project 23, Industrial Tone-Down Paint

The head Office of Civilian Defense requested a specification for the best industrial camouflage paint that could possibly be made which would meet the color requirements of the army engineers specification T-1213a and would last at least two years. The object was to give OCD an answer to many requests from all over the country for a paint which could be used for maintenance as well as tone-down effect. Many industrial plants needed repainting and obviously the company desired to produce a tone-down effect while at the same time protecting their factory. Our committee discussed two phases of the problem, first, was such a specification advisable, and second, what type coating would be the best? The latter problem was given to committee 9 which had produced army engineer specification T-1215. Their work resulted in a specification that produced the tone-down effect and was believed to be satisfactory in other factors and produced a slightly higher gloss than T-1215. We owe a debt of gratitude to Austin Allen and his committee. After thorough consideration of the problem we finally told OCD that we did not think a standard specification was advisable. We recommended instead that OCD advise those requesting information to contact their local paint manufacturer who had been supplying them paints for some years and who was familiar with army engineers standard camouflage colors and was fully qualified to manufacture the paint required to produce the tone-down effect. This decision was reached after thorough discussion with OCD representative and we believe is the best for all including our industry.

Our work of developing information on drying oil substitutes has continued and a progress report will be rendered at this symposium.

We have held regular monthly com-

—*Continued on page 94*

Petroleum Products

Petrolatums and Waxes

—*Continued from page 89*

and technical grades still in brisk inquiry but wi h the supply ample for all current requirements.

Fuels and Lubricants

Crude Petroleum.—Although there was a dip in the domestic production rate of crude oil for the week ended October 23, amounting to 2.200 barrels, which brought the daily average for that brief interval down to 4,409,750 barrels, it is noteworthy that the current output is still reaching peak levels for the industry and that the yield of the American fields for the first eight months of this year has totaled 967,468,000 barrels, which makes a daily average for that period of 3,981,000 barrels, as compared with an aggrega e of 912,747,000 barrels and a daily average of 3,756,000 barrels for the corresponding period of last year.

Fuel Oil.—A recent heavy accumulation of available supplies of the heavier grades of bunker fuel oils has induced leading suppliers in the New York area to reduce their prices for 16-19.9 gravity material by 12 cents a barrel, from $1.89 to $1.77.

Gasoline.—Refiners in the Group 3 area have marked up their prices for 78-octane gasoline by a half-cent per gallon to a revised range of 7¼c.-7½c.

—O-P-D—

Petroleum Products Priority Group Formed

Relative priority groups have been established for the refining of critical petroleum products required for the armed forces and essential civilian purposes, the Petroleum Administration for War has announced. U. S. refiners will be informed of the suggested preference groups for the various petroleum products by PAW's district directors of refining.

—O-P-D—

Florasynth Detroit Office Headed by L.W. Bogner

Florasynth Laboratories, Inc., Detroit headquarters and new offices are now located in 6432 Cass avenue, under the management of L. W. Bogner.

PETROLATUMS
and
WHITE OILS

From The Refinery of Controlled Specialization

SHERWOOD
REFINING COMPANY, INC.
ENGLEWOOD, N. J. • Refinery, WARREN, PA.

Fertilizer Materials

Shipments of Ammonia Nitrate Increase—Superphosphate Production Goal for First Quarter May Be Reached

Processing ammonia nitrate into a form usable as a fertilizer material has popularized that nitrogenate beyond general expectations. Shipments have been gaining since July, when deliveries of 13,750 tons were recorded to prospective approved shipments of 21,000 tons for November. Demand exceeded the production capacity in October, but increased stocks are expected to be available from ordnance plants surely by January and possibly by December. War Food Administration stated that it hoped the priorities established can soon be withdrawn and the material shipped without restriction of priorities as recommended by the inorganic nitrogen subcommittee.

Nitrogen was in better supply on the Pacific Coast than in the East, although it was admitted that ammonia nitrate and soda nitrate can be shipped from the West to the East. Because of the price situation ammonia sulphate cannot be so moved. While no soda nitrate has been allocated for mixed fertilizer, it is expected that 800,000 tons will be available for direct application. The shipping schedule presently contemplates the importation of 500,000 tons of soda nitrate by June, 1944. WPB contemplates the allocation of some urea fertilizer compound for mixing requirements. The movement of solutions has ranged from actual deliveries of 9,500 tons of nitrogen in July to approved shipments of 13,100 tons for November.

Fertilizer Industry Committee states that if September output of superphosphate equals August production, the goal for the first quarter of 1,600,000 tons will be reached. So far the movement of sulphuric acid from ordnance plants to superphosphate factories has been below expectations. It is understood that WFA will endeavor to correct this situation.

Nitrogenates

Ammonia Nitrate. — Production moved readily into mixed fertilizers, active demand kept the supply situation tight with output insufficient to satisfy all requirements. Production expected to increase as season progresses. Estimates place November shipments around 21,000 tons.

Ammonia Sulphate.—General movement broader under increased allocations. Shipments were made promptly against existing contracts. Estimates on operations of byproduct cokeovens for the week ended October 23, indicate a production of 38,327,640 pounds from that source.

Castor Pomace.—Production heavity sold ahead over balance of the year and relatively little stock was available for additional wants. Recent heavy arrivals of castor beans gave the impression that future supply prospects remained favorable.

Fish Meal.—According to reports, none of the new production will be available for fertilizer purposes. Shortage of protein feeding stock was responsible for the diversion of fish meal. War Food Administration purchased 90 tons of fair average quality sardine meal in bags at ceiling figure, Long Beach, California, on Oct. 7.

Hoof Meal.—Purchases by the government to cover lend-lease requirements have kept this market in very limited supply. Buyers had difficulty in locating offerings all week.

Soda Nitrate.—November shipments of American soda nitrate were available at unchanged prices. Revision of shipping rates and surcharges by the War Shipping Administration for nitrate moving from Chili had no effect on prices of imported material.

Tankage.—Although recent importations of various grades of tankage were heavy, the supply position of the market has not improved because this material was routed entirely into feed channels. Heavy demand for processed tankage kept the market in an exceedingly tight position.

Phosphates

Heavy output, which held at capacity levels, continued to move steadily for fertilizer requirements. Processors admitted they were getting sufficient rock and aside from manpower problems, the outlook appeared favorable for the maintenance of steady production.

Superphosphate. — Maintenance of heavy production contributed to the improved supply outlook. If producers can secure sufficient quantities of sulphuric acid, there seemed to be no reason why peak output should not hold over the remainder of the year. While the stocks of triple have increased, improvement in the supply situation has been limited through lend-lease shipments. Department of Agriculture was in the market for 1,000,000 tons of normal superphosphate for January-June shipment.

Price Changes

Advanced

None

Reduced

None

Comparative Values

Index numbers compiled from four typical fertilizer materials on the basis of 100 for August 1, 1914, compare as follows:—

Last week.	Prev. week.	Last month.	Last year.
71.8	71.8	71.8	71.8

Market news that may have developed after this report was sent to press will be found on page 4.

Potashes

Some improvement in the supply outlook was reported by WPB. Aside from an anticipated release of part of the 60,000 tons of muriate reserved for lend-lease shipment to the United Kingdom, plus some muriate that was not expected to be available for fertilizer requirements, it was apparent that an additional 30,000 tons of muriate would be available for fetilizer during the second period. There will also be about 12,000 additional tons of manure salts. Under such conditions, the opinion prevailed that with conservative and well planned utilization, the prospective shortage would not prove serious.

Sulphur and Pyrites

Favorable supply conditions have permitted the continuance of heavy shipments of sulphur. Buying interest in both prompt and forward deliveries was reported active. Pyrites moved at former price levels, the supply situation showing temporary improvement through recent importations.

Markets at Other Centers

Atlanta, Oct. 29.—In response to requests of the War Food Administration, the agricultural extension services of southern states are sponsoring meetings of farmers to get early ordering and movement of fertilizers to farms. The occasion is also used to explain regulations governing the ordering and use of various grades of fertilizer. Manufacturers are bringing pressure to bear through trade channels. It is claimed that only by quick clearance of producing plants of manufactured goods can production attain the peak called for by the WFA.

Baltimore, Oct. 29.—Supplies of bone remain limited and the volume of business is held down by the smallness of offerings, with 1 and 60 meal still at $50 per ton f.o.b. shipping point, along with 3 and 50 ground steamed stocks, while 4½ and 50 raw bone is about the same, also f.o.b. shipping point.

Chicago, Oct. 29.—Continued constriction of supplies is a continuing factor in the fertilizer materials market. Offerings thus are not coming up to expectations and buyers are having to search diligently for material where they really desire it. Blood is in good inquiry. Tankage business is steady. Bone materials are moving well.

Los Angeles, Oct. 29.—Only part of the serious shortages of superphosphate in California have been met with recent arrivals of material from southern states and trade here is looking to Washington for the making available of additional quantities. A recent survey by the State Department of Agriculture shows an increased demand of almost 65 percent for superphosphate over last year.

—O-P-D—

Soda Nitrate Shipment Rate From Chile Revised

OPD Washington Bureau

The War Shipping Administration has approved new rates and surcharges on shipments of nitrate of soda from Chile to United States ports, it was announced October 25. Effective on loadings on and after October 21, the new rates are:—

To United States Atlantic ports, $8.75 per ton of 2,240 pounds, plus 32 percent surcharge; to United States gulf ports, $8.50 per ton plus 35 percent surcharge; to United States Pacific coast ports, $9 per ton plus 10 percent surcharge.

The new order, rate order No. 221, cancels rate advices No. 1 and 15; and rate orders No. 53 and 56.

—O-P-D—

Potash Deliveries for Third Quarter Reported

The American Potash Institute has announced that deliveries of potash salts within the continental United States, Canada, Cuba, Puerto Rico, and Hawaii by the five major producing companies during the third quarter of the calendar year 1943 were:—

	Short tons K_2O July-Sept., 1943	Short tons K_2O July-Sept., 1942
Muriate	128,376	140,802
Manure salts	14,389	12,998
Sulphate and sul. pot. mag.	13,030	10,839
Total agriculture	155,795	164,639
Chemical	20,042	13,622
Grand total	175,837	178,261

—O-P-D—

Fuller D. Baird, has joined the special products department of Standard Brands, Inc., this city, as assistant manager of animal feed sales.

N.F.A. Cancels Fall Convention

OPD Washington Bureau

The usual Fall meeting of the National Fertilizer Association at Atlanta, Ga., has been cancelled this year, it is announced by the association following a meeting of the board of directors in New York last week. Members voted to cancel the convention because of transportation conditions.

WFA Fertilizer Order Revised

OPD Washington Bureau

A revision of the War Food Administration's food production order No. 5 is designed to give a more equitable distribution to fertilizer. New amendments to the order include:—

1. An addition of a few grades of fertilizer needed in some States to provide a more equitable distribution of potash in relation to nitrogen and phosphoric acid.

2. Simplification of the application form which farmers use in obtaining fertilizer from local dealers or agents. Use of the simplified form has been authorized in a general letter to the fertilizer industry.

3. Special measures whereby some fertilizers which are new materials or available in larger than usual quantity, may be directed into specific areas to encourage the production of group B crops—especially crops that respond readily to application of fertilizer but which customarily have not been fertilized.

—O-P-D—

Chromite Deposit Mapped

The Silver Star Chromite Deposit, Madison county, Montana, has been examined by the Geological Survey, United States Department of the Interior. A map showing in detail the surface geology of the area and a plan of the underground workings, as of May, 1943, and a short descriptive text accompanying the map may be obtained from the Director, Geological Survey, Washington.

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THE UNEXCELLED CONDITIONER
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BEWARE! When others claim to be best, have they met every test?
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99½% PURE
Free From
ARSENIC, SELENIUM AND TELLURIUM
TEXAS GULF SULPHUR COMPANY
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75 East 45th St., New York City
Deposits and Plants: Newgulf and Long Point, Texas

Current prices on petroleum derivatives are given in the alphabetical list of prices beginning on page 9

Business Wants and Offers

Agencies Wanted

ESTABLISHED CINCINNATI firm covering Ohio and Louisville, Ky., would be interested in representing producers of materials used in the rubber, ink, paper, paint, soap and other industries. BOX 681, Oil, Paint and Drug Reporter.

EXPORT CONNECTION, reliable firm in Lima, Peru, adequately organized to handle distribution of products in Peru, desires direct factory sales agency for chemicals, paints and allied products. BOX 685, Oil, Paint and Drug Reporter.

Botanical Services

WANTED to grow rooted cuttings of sage (salvia officinalis) for Spring delivery in large lots, cuttings rooted in open beds, we have no greenhouse, we grow good plants, good root system. Mountville Nurseries, Mountville, Ga.

Equipment Offered

FOR SALE: Pilot plant for hydrogenating oils, 10-gal. size, continuous operation, 700°F. steam, vacuum pump, compressor, catalyst chamber mixer and hydrogen connections. Cost $3,000, sell for half. BOX 693, Oil, Paint and Drug Reporter.

BIRD SOLID bowl continuous filter for sale. Perfect condition. BOX 672, Oil, Paint and Drug Reporter.

Equipment Wanted

WANTED—Our expansion program requires additional equipment. We need iron and wood filter presses, jacketed kettles, mixer, pulverizer, dryer, etc. No dealers. Send your offerings to BOX 692, Oil, Paint and Drug Reporter.

Equipment Wanted

WANTED—Adjustable labeler for metal cans. Send description, including minimum and maximum dimensions cans which it will handle, condition, location, price to C. J. Landen, 45 Irving street, Malden, Mass.

WANTED—Wooden box making machinery—nailers, boxboard matchers, printers, roller conveyors, etc. J. Wolfson, 806-A, Keystone Bldg., Pittsburgh (22), Penna.

WANT to purchase for immediate delivery a paint filling machine for 1 gallon to 1/16 gallon sizes. Give description, price and where inspection can be made. BOX 694, Oil, Paint and Drug Reporter.

—*Continued on page 93*

Available!

FMC

PRODUCTION BOOSTERS!

PLASTIC-RUBBER

THROPP 36" RUBBER MILLS with motor drive
THROPP 42" RUBBER MILL
ROYLE No. 1 TUBER motor drive
ROYLE No. 3 TUBER motor driven
ROYLE No. 4 TUBER motor driven
WATSON-STILLMAN STEAM HEATED PLATEN PRESS
2 HYDRAULIC PRESSES 17" Ram, 8'8" stroke, with pumps
1 GUILOTINE HYDRAULIC CUTTER

LIQUIDATION

Fort Washington Chem. Co.

RICHARDSON HOFFER SCALE
4 LEAD MELTING POTS
9 PATTERSON CLOSED JACKETED AGITATED KETTLES
2 GRUENDLER HAMMERMILLS No. 4 and No. 8
OLIVER FILTER 4' x 3' with auxiliaries
2 BALL MILLS 6'6" x 13' long
2 ATMOSPHERIC 6' CRYSTALLIZERS
3 HORIZONTAL JACKETED CRYSTALLIZERS
1 SHRIVER 24" IRON FILTERPRESS
RAYMOND 00 PULVERIZER with complete classifiers
HYDRAULIC PRESS; down ram

JUST PURCHASED

JAY-BEE No. 3 JR. HAMMERMILL
DOPP 300 gal. JKTD. KETTLE
4 W & P JKTD. MIXERS; 3 gal. cap.
2 MATHEWS CONVEYORS; M. D. 40' and 11' long
2 CRANDALL FILLING MACHINES; single spout
3 18" IRON FILTERPRESSES; open delivery
3 VERTICAL STEEL DIGESTERS, with agitators

JUST OFFERED

BUFFALO 5' x 12' VACUUM DRUM DRYER
RUGGLES COLE DIRECT HEAT DRYER; 4' x 20'
2 LOUISVILLE DIRECT HEAT DRYERS; 4' x 40'
HARDINGE 5' CONICAL MILL with 8' CAYCO Separator
2 BALL MILLS 4'6" x 22'
Steel ALCOHOL RECOVERY UNIT
JEFFRY 36" x 18" PULVERIZER
DOUBLE EFFECT STEEL EVAPORATOR, SALT FILTERS, ETC.

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LIQUIDATION

Machinery and Equipment of a Compounding and Grease Plant
554 S. Front St., Elizabeth, N. J.

STEEL VERTICAL TANKS

4—Closed 6' x 23'10" high 5000 gal.
2—Open 9' x 7' high, 3300 gal.
2—Open 4' x 8' high, 750 gal.
2—Open 8'6" x 12'2" high, 5200 gal.
6—Open 6'6" x 8' high, 1450 gal.
1—Open 4' x 5'' high, 480 gal.

MIXING TANKS

1—Steel Open 8'6" dia. x 7' high, 3000 gal pulley driven.
1—Steel Open, Coil Heated 8' dia. x 53" deep. 1650 gal. pulley driven

STEEL JACKETED AGIT. KETTLES

1—86" dia. x 7'9" high, bottom jacket, 2400 gal.
1—66" dia. x 5' high, 900 gal.

STEEL RECTANGULAR TANKS

10—Steel open tanks, 2400 gals. to 3600 gal.

Special Items from Stock

1—P & S. 9-Truck ATMOSPHERIC DRYER, 1,562 sq. ft. tray surface.
2—PEBBLE MILLS, 1—4' x 4' Burrstone Lined; 1—4' x 6' Jacketed Steel Lined; 1—32" x 42" Rubber Lined, Other sizes.
6—3 ROLLER MILLS, up to 16x40.
6—DRY POWDER MIXERS. 1000 lbs., 200 lbs., other sizes.
2—W. & P. MIXERS, sizes 21-X-BB jacketed 625 gal.: 1—size 15, 100 gal. jacketed: 1—size 14, 50 gal. jacketed; other sizes.
2—4'x6' Iron OLIVER CONTINUOUS FILTERS; 1—Iron 5'x4'.
7—HEAT EXCHANGERS, 50 to 1600 sq. ft. heating surface; other sizes.
6—RAYMOND PULVERIZERS, 4-Roll Low Side, No. 3, No. 1, No. 0000.
1—Day No. 30 Imperial Jack. MIXER, 75 gal.; 1—No. 10 jacketed. 30 gal.
1—Schaeffer size 14 POIDOMETER.
3—2" Wilfley SAND PUMPS.
10—RUBBER LINED Rectangular TANKS; 7—500-gal.; 2—200 gal.; 1—150 gal.
10—ROTARY VACUUM DRYERS; 3—Buffalo 5'x20'; 5—Devine 4'x25'; 1—Devine 4'x30'; 1—Struthers Wells 30" x 12'.
3—ATMOSPHERIC DRUM DRYERS 4'x 12'.
10—25 gal. MONEL open TANKS; 12—45 gal.
1—9" x 4' Denver ROD MILL
29—CENTRIFUGAL EXTRACTORS, 12" to 72" bronze and steel baskets, belt and motor drives.
1—PNEUMATIC SCALE CARTON PACKAGING UNIT
2—Baltarips of two each TYLER HUMMER SCREENS 4'x5', single deck, other sizes.
9—Direct heat ROTARY DRYERS 4' x 30', 5' x 30', 6' x 24', 70" x 30'.
1—500 gal. steel closed jacketed agitated KETTLE; 1—420 gal.
1—Buffalo cast iron jacketed 125 gal. AUTOCLAVE.

ROTEX SIFTERS

4—No. 432 Rotex Sifters, triple deck, size 40" x84", each equipped with V-belt drive, 2 HP dust proof 3/60/220-440 volt motor, starter, structural steel supporting frame.
Excellent rebuilt condition.
Inspect at our Newark Shops

1—Zaremba triple effect EVAPORATOR, steel tubes, C.I. body—500 square ft. per effect, complete.
1—No. 10 SWEETLAND FILTER, 27 leaves, 4" C.C.; 1—No. 7, 27 copper leaves, 3" C.C.
1—36" dia Cast Iron COLUMN, 23" high.
1—355 c.f.m. Ingersoll Rand AIR COMPRESSOR.
1—20' x 10' DORR THICKENER
1—8'Denver HYDRO-CLASSIFIER, with motors.
9—Coal PULVERIZERS, various sizes and makes.
1—Day 5-gal. jacketed MOGUL MIXER.
2—BROUGHTON 1500 lbs. MIXERS
3—STOKES steam heated WATER STILLS, 5, 10, 25 gal. per hour.
1—ALUMINUM 350 gal. Jacketed Agitated KETTLE.
1—ALUMINUM 275 gal. Jacketed Agitated KETTLE with Aluminum Agitator, m.d.
3—CRUSHING ROLLS, 36 x 16" Sturtevant, 40 x 16" Colorado Iron Works.
2—Hardinge BALL MILLS, 4'6" x 16", 5' x 22".
3—ROTARY KILNS, 4' x 30', 5' x 50', 8' x 125', 8' x 135'.
4—BELT CONVEYORS, 30" x 110', 14" x 30', 14" x 65', 30" x 425'.
1—Dracco PNEUMATIC CONVEYOR, 30 T. P. H. with dust collector.
1—Devine horiz. jack. VULCANIZER, 5' x 11'
1—Abbe Blutergess No. 2 SIFTER
2—Gen. Ceramic 40" dia. x 15' high ABSORPTION TOWERS.
1—Kinney 4 x 3" jack. ROTARY PUMP.
1—Steam jack. steel KETTLE 3800 gal. cap.
1—Steam jack. steel KETTLE 1000 gal. cap.
2—Glass Lined jack. KETTLES 235 gal. cap.
2—10' dia. Glass Lined jack. EVAPORATING PANS or CRYSTALLIZERS

HARD TO GET

6—Buflovak 6' dia. Jacketed Vacuum CRYSTALLIZERS.

SPECIAL

4—70" x 30' RUGGLES COLES DIRECT HEAT ROTARY DRYERS, TYPE A-9.

Liquidation

Turbo Blower; Blowing Engines; Briquetting Equipment; Dracco Pneumatic Conveyor with Dracco Dust Collectors; Electric Hoists; and other equipment from

150-ton BLAST FURNACE
Nashville, Tenn.

SEND FOR DETAILED LIST

Liquidation

Equipment of
Waste Disposal and Reduction Plant
Boston Harbor, Mass.

18—Open and Closed, Steel Storage and Pressure Tanks, 500 to 17,000 gallons
2—5' x 40' Direct Heat Rotary Dryers
18—Digestors, tile lined, cone bottom, 7'5" dia. x 16', 5,600 gallons
2—Bartlett & Snow Percolators, 8'7" dia. x 15' long
2—Bartlett & Snow steam jacketed Reducers, 10' dia. x 4' deep, sweeping agitators
1—Sturtevant Fertilizer Unit, complete, including grinder, elevator, screen, mixer, etc.
Miscellaneous: Steam Pumps, Motors, Steam Engine, Royer Disintegrator, Model C-2

Send for Complete List

WANTED: Idle Machines

Single Items or Complete Plants.
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FOR OVER 25 YEARS A SYMBOL OF CONFIDENCE

Shops: 335 Doremus Ave.
Newark 5, N. J.

Business Wants and Offers

—Continued from page 92

Materials Offered

FOR SALE—All kinds of roots, herbs, barks, flowers, berries and beeswax. We are ready to consider your order on any of the above items. Coeburn Produce Company, Corner Second and Grand streets, Coeburn, Va.

FOR SALE—150 drums cod liver fatty acids. If interested address BOX 675, Oil, Paint and Drug Reporter.

FOR SALE: 1,000 lbs. orange peel; 125 lbs. orris root; 2,400 lbs. cocoa bean; 380 lbs. orange flowers; 70 lbs. calamus root. The above materials are offered at reasonable price for quick sale. BOX 682, Oil, Paint and Drug Reporter.

Materials Wanted

DO NOT wait until conditions further limit prospects of disposing of top-heavy inventories. Will purchase surplus unshipped commodities all kinds. Particularly interested gums, waxes, spices, botanicals, oils, greases, pharmaceuticals, chemicals. BOX 690, Oil, Paint and Drug Reporter.

Materials Wanted

WILL PURCHASE your surplus and discontinued chemicals, drugs, oils, waxes, dyes, solvents, etc., and will pay highest cash prices for same. Thoroughly familiar with WPB regulations. Will make immediate offer. Write fully. BOX 691, Oil, Paint and Drug Reporter.

WILL PURCHASE odd lots gums, crude drugs, spices, no lot too small or too big any quality or condition. BOX 668, Oil, Paint and Drug Reporter.

Positions Wanted

PLANT MANAGER or general manager with a manufacturer of industrial coatings by one experienced in the formulation, manufacture and sale of industrial paints, alkyd enamels, lacquers, emulsions and urea finishes for both military and civilian consumption. Graduate, age 46, now employed in the industry on East coast. Not interested as a laboratory formulator. BOX 683, Oil, Paint and Drug Reporter.

—Continued on page 94

JUST PURCHASED!

1—Buflovak Vacuum Shelf Dryer with 12-42" x 42" shelves.
1—2½" x 1¼" Hard Rubber Centrifugal Pump.
1—3' x 4' Lead Lined Steel Tank.
1—Pfaudler 125 gal. Vacuum Pan, without jacket.
1—Pfaudler 4' x 4' Open Top Tank.
1—500 gal. Steel Agitated Jacketed Kettle.
1—100 gal. Duriron Jacketed Kettle.
1—22" x 40" Closed Top Lead Lined Tank.
1—4' x 4' x 2' Cone Lead Lined Wash Tank.
1—275 gal. Steel Lead Lined Agitated Still with lead condenser and piping.
1—500 gal. Steel Jacketed Still.
1—Lead Coil Condenser.

All the above PRACTICALLY BRAND NEW

SPECIALS!

1—Buflovak 5' x 10' Rotary Vacuum Dryer.
1—Devine 4'3" x 19'8" Rotary Steam Tube Dryer.
1—Buflovak 5' x 6' Atmospheric Drum Dryer.
1—54" x 40' Steel Dryer, monel lined
1—6' x 28' Rotary Dryer.
1—W. & P. Mixer, Jacketed. Vacuum Type, 100 gal.
2—Buflovak 6' Crystallizers.
1—Buflovak 24" x 20" Vacuum Drum Dryer.

DRYERS—KILNS—FURNACES
1—Vulcan 6' x 42' Rotary Dryer, ½" shell.
1—Christie Rotary Dryer, 7'6" x 75'.
1—Buflovak 5' x 6' Atmospheric Drum Dryer.
4—Rotary Vacuum 30" x 11' to 5' x 30'.
7—Rotary 3' x 30', 4' x 30', 5' x 35', 6' x 65'.
2—Scott Cookers, jacketed, 3' x 5' x 8', good for vacuum.
10—Rotary Dryers 6' x 30' to 8' x 70'.

KETTLES—PANS—EVAPORATORS
2—Buffalo 6' dia. Atmospheric Crystallizers.
1—Buflovak Jacketed Kettle, 42" x 60".
2—Copper Vacuum Pans, 2' 6", 7' dias.
25—Copper Jacketed Kettles, 10 to 300 gals.
9—Steel Jacketed Kettles, 50 to 2000 gals.
1—Devine 60" x 48" Closed Jacketed Kettle.
5—Single and Multiple Effect Evaporators—Swenson, Buflovak, Zaremba.

CENTRIFUGALS
1—Tolhurst 40" Suspended Type, with 10 HP AC motor, bottom discharge, solid basket.
1—Battery of 2 American Tool 40" Suspended Type, perforated baskets, bottom discharge.
3—Tolhurst 40" Suspended, 15 HP AC motors, bottom discharge, bronze baskets.
1—Tolhurst 32" Suspended Type, solid basket, belt driven.
8—Tolhurst 32", 40", 48", 60", self-balancing type.
10—40", 48" Direct Motor Driven Centrifugals.
6—Sharples No. 6 Centrifuges.
4—DeLaval Nos. 200, 300, 600.

MIXERS
1—W. & P. 100 gal. Jacketed Vacuum Mixer, Size 15, Class BB.
2—W. & P. 9 and 50 gal. Mixers.
1—Ross 75 gal. Double Arm Mixer.
2—Scott Jacketed Mixers, 3' x 5' x 8'.
1—Day No. 30 Imperial, jacketed, 75 gal.
1—Ross Mammoth 40 gal. Pony Mixer.
5—Change Can, 2½ to 80 gal.
4—Lead and Paste Mixers, 50 to 100 gal.
1—Day Universal, Jacketed, 265 gal
7—Day Powder Mixers, 25 to 2000 lbs.

FILTERS
1—Shriver 32" x 32" Cast Iron Filter Press, 30 chambers, with Shriver Diaphragm Pump, 45 gpm.
1—Sperry 36" x 36", cast iron, 48 chambers.
3—Shriver Skeletons, 30" to 36" square.
8—Oliver Rotary, 4' x 6' to 12' x 20'.
5—Sweetland Filters, Nos. 7, 10, 11, 12.

PULVERIZERS—GRINDERS
1—Patterson 2'6" x 3'6" Tube Mill, porcelain lined, PRACTICALLY NEW.
2—Micro Pulverizers, Nos. 2 and 4.
4—200 gal. Pebble Mills, 4½' x 3½'.
6—Rubber Lined Pebble Mills, 24" x 36", 36" x 36" 75 to 100 gal.
18—Pebble Mills, Lab. to 600 gal.
6—Day, Ross Roller Mills, 9" x 24", 12" x 30", 16" x 40"
3—Raymond Pulverizers, Nos. 0000, 00, 3.
5—Colloid Mills, ½ to 100 HP.
15—Hammer Mills, Williams, Jaybee, etc.

TANKS
26—Wood Tanks, 500 to 10,000 gals.
3—Lead Lined, 1,700 gal. Vacuum.
10—Glass Lined, 50 to 1,500 gal.
19—Steel, 3,500 to 20,000 gal.

MISCELLANEOUS
5—Rotex, Tyler Screens.
2—Heat Exchangers, 300 and 350 sq. ft.
2—Glens Falls Sulphur Burners, 20" x 8'.
10—Pumps, Centrifugal, Rotary, 1" to 6".
10—Vacuum Pumps, Devine, Buffalo, Nash.
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Paint Technical Symposium

—*Continued from page* 90

mittee meetings and have aided our president in arranging the present symposium.

Work to Be Continued

It is believed that a more definite statement of future policy is now warranted. There was an urgent need for our cooperative efforts before the war started. It will be remembered that our federation started this work a year before Pearl Harbor. The foresight of our federation executives in offering our services to the army engineers has proved to be far wiser than was first anticipated. Our contribution to the war effort cannot be measured in dollars and cents. When we started the engineers had only a few men assigned to this general problem. The results of our cooperative effort is obvious. Now most of the major problems are solved and it is believed that future technical advisory committees can concentrate more on perusal and constructive criticism of specifications which was the original function of this committee. It is recommended that a nucleus be maintained to work on any additional coating problems given us by any division of the armed forces. This committee should meet only when required and not once per month as in the past.

It is likewise recommended that each production club set up a specification perusal committee which should meet on call and discuss and criticize specifications that may be of particular local interest or those which are sent through the technical advisory committee. The latter committee should meet on call for the purpose of discussing the contribution of the club specification committees or offer comments on specifications sent the T. A. C. and render a federation report to the interested government body through Dr. Gardner as called for in our constitution and by-laws.

It is, likewise, recommended that this specification perusal body made up of federation and club committees form a habit of investigating specifications written by industrial concerns, State, and local governing bodies, etc.

Evaluation of Specifications

Are paint specifications the best for the industry? Should we foster or discourage them? From an industry viewpoint, would it be better that such specifications were a result of concerted effort? It is wondered if we could stop specification writing and purchases even though we desire to. This whole problem materially affects the whole industry and it is believed a statement of policy should be formulated so all Federation members will endeavor to follow the same line of thought.

After the policy is once definitely established, it is recommended that the technical advisory committee be composed of those members who are specifically skilled in the art of writing and criticizing paint specifications. There are those in the industry far better informed on this subject than some of the present committee membership. It will be remembered that our committee was formed primarily for contribution of work and knowledge to the war effort. The committee has served in this capacity in an unselfish and admirable manner. We are indeed grateful for the opportunity of serving our Federation and our country.

In addition to Mr. Moore, affiliated with the Philadelphia club, the members of the technical advisory committee were:—Austin O. Allen, New York club; John J. Bradley, jr., New England club; Harry Eastwood, Golden Gate club; Joseph J. Mattiello, New York club; Robert E. Prince, Chicago club; Edward Schulte, Cleveland club; Francis Scofield, Baltimore club.

Committee Activities

The scholarship committee was authorized to spend up to $1,200 with the approval of the executive committee. This was a continuation of the existing plan, the scholarship work having been reduced to a wartime minimum.

Kenneth J. Howe, chairman of the committee, said that the past year's expenditure had been limited to that through the Southern States club. The scholarship at Case School of Applied Science was functioning but had no appropriation. The Louisville scholarship was running but had needed no more funds. The scholarship at Massachusetts Institute of Technology was still in a pending status.

Work on specifications by committees in local clubs was discussed by Ralph Everett. He pointed out that these committees had no direct contact with specification-writing bodies, but worked under and cleared their results through the national organization. In this way, he said, discrimination was avoided. Several other members made the point that the purpose is to make specifications what they should be with the application of the necessary laboratory experimentation by way of the technical advisory committee and the N.P.V.L.A. scientific section.

Carlton Rose, chairman of the committee on technical information, told of its endeavors to get information on work for the armed forces promptly disseminated among members of the federation. One technical letter had been sent out. This committee also went over the papers to be presented in the Cincinnati and Cleveland symposiums.

Francis Scofield, representative in the Intersociety Color Council, said that a symposium on "Color Aptitudes and Tests for Them" was planned for next Spring. He suggested that the federation's Spring symposium be synchronized with that of the council. He recommended that affiliation with the council be continued.

Work of the N.P.V.L.A. scientific section was reviewed by Ralph Everett, with special reference to the conference in October on oil conservation, painting asbestos sheets, reviews of abstract, and in assistance to the armed forces. He told of a trend toward the use of less white lead in paints, more of this being the basic sulphate; an increase in the use of titanium dioxide; combining of the dioxide with magnesium silicate extender. A report is in the making, he said, on comparisons of the paints of today with those of yesterday.

A new revision of the circular on government specifications will be issued in January, Mr. Everett said. Studies are in progress on coatings for food cans, and *Garcia nutans* oil. The scientific section plans a clinic on the effects of synthetic rubber on the paint industry.

Reporting as chairman of the committee on membership, Robert Stark urged that local clubs help the federation to maintain the quality of its membership. An application by way of the New England club for a contributing (now federation) honorary membership for John J. Bradley, jr., was approved. Mr. Bradley, long active in the federation, recently severad his connection with Bird & Son and became affiliated with Reichhold Chemicals.

The amendments to the by-laws with reference to honorary memberships were presented by Robert Smith and transferred to the business session of the federation. These amendments which change contributing honorary membership to federation honorary membership without obligation for dues or publication fees, and change simple honorary membership to club honorary membership, were adopted with one negative vote after a deal of discussion of their purpose and their phraseology. The testimony was that some, at least, of the local clubs had not received notification of the proposed amendments. The secretary's records showed that this had been duly sent out.

Appointment of a committee on postwar planning, especially for production improvement, was suggested by Dr. Joseph J. Mattiello with a plea for volunteers.

A report by George B. Heckel presented memorials of the following deceased members:—

W. H. Currens, Eugene DeRoziers, F. W. Grant, O. K. Haun, F. S Helwig, J. L. Kaiser, E. H. Kessler, B. P. Stolz.

Continuation of the technical symposium was voted by the advisory committee. John J. Bradley, jr., as chairman of the program committee, told of the developments of symposiums from Pittsburgh last Fall, through Cincinnati in the Spring, to the present discussions in Cleveland. He spoke especially of the purpose to get timely topics and to avoid overcrowding.

Award of the *American Paint Journal* prize to the Chicago club for its paper on studies of newer oils was announced and made by E. W. Boughton.

The committee on National Paint award for the best reports of meetings by local club secretaries, reporting through Hugh Aiken, gave the prize to the Cincinnati-Dayton-Indianapolis-Columbus club. Reports of the New York and Baltimore clubs were commended, and the committee voiced special appreciation of the newly organized Houston club's reports.

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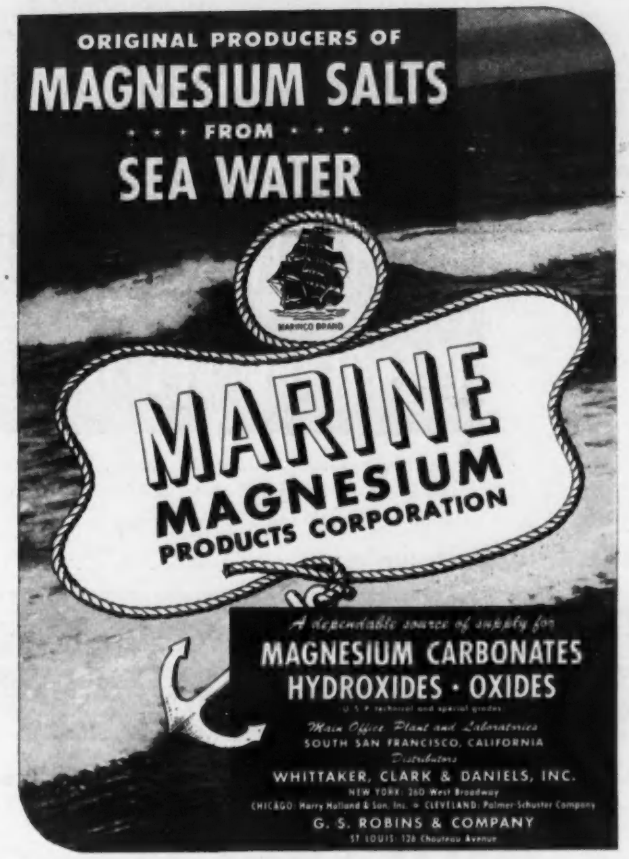

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